Objective: Evaluation and comparison of the efficacy and safety of 3 different modalities of treatment for dark circles that function via different modes of action. Methods: In total, 45 female patients with periorbital hyperpigmentation were randomly selected to participate from those attending the outpatient dermatology clinic of Al-Zahraa University Hospital within a 6-month period. Patients were divided into 3 groups, and the groups were subjected to different types of therapy: group A, carboxy therapy; group B, chemical peel; and group C, vitamin C mesotherapy. Results: No statistically significant differences were detected in improvements in pigmentation or the degree of patient satisfaction between any of the groups. However, the mesotherapy group reported more of a burning sensation following treatment than the other 2 groups but also showed a significant improvement in pigmentation and patient satisfaction compared with the carboxy group. Conclusion: All 3 treatment modalities were effective in the reduction in periorbital pigmentation. However, mesotherapy showed a significant improvement in pigmentation and a higher level of patient satisfaction compared with the other types of treatment.
Background: Mature skin is characterized by a loss of elasticity, hyperpigmentation, and dehydration. L-ascorbic acid stimulates the synthesis of collagen type I, inhibits melanogenesis, and helps to maintain correct skin hydration. Combining microneedle mesotherapy with the application of preparations rich in vitamin C results in better therapeutic effects due to the improved absorption of active substances. The study evaluates the effectiveness of the application of strawberry hydrolysate enriched with L-ascorbic acid using microneedle mesotherapy. Materials and methods: Seventeen volunteers aged 45-70 years underwent a series of four microneedle mesotherapy treatments with vitamin C serum, performed every 10 days. The 20% L-ascorbic acid solution (pH = 3.5) was prepared immediately before application. After the treatment, the participants gave a subjective assessment of the effectiveness. Cutometer® was used to measure skin elasticity and firmness, Corneometer® to measure skin hydration, and Mexameter® skin tone. Results: The results of the survey showed improvements in skin hydration and elasticity. In vivo studies confirmed the effectiveness of serum and the impact of the active substance on skin firmness and elasticity, the degree of hydration and skin tone. Conclusion: Microneedling with vitamin C improves skin tone, hydration and firmness, and decreases the visibility of hyperpigmentation.
Introduction: Melasma is a prevalent annoying skin hyperpigmentation disorder that commonly involves reproductive-aged females. Variety of treatments with controversial results has been recommended. The aim of the current study was to evaluate combination therapy of tranexamic acid (TA) and vitamin C with and without glutathione with mesotherapy technique for treatment of melasma. Methods and Materials: This is a randomized clinical trial study conducted on 30 patients referred to Dermatology Clinics. Patients were examined under wood lamp in order of melasma type (epidermal, dermal, or mixed) determination. Then, patients underwent melasma therapy using Cocktail A (TA 4 mg/mL; vitamin C 3% and glutathione 2%) on their right half of the face and Cocktail B (TA 4 mg/mL and vitamin C 3%) on their left half of the face, with mesotherapy technique. This procedure was done for six times with 2-week intervals. Patients' modified Melasma Area and Severity Scoring (mMASI) was assessed at initiation and end of the study. Results: According to mMASI score changes 12 weeks after intervention, both cocktails had significant efficacy in reduction of mMASI score in each side. Mean of mMASI in left side had decrease of 1.82 ± 0.88 (P-value < 0.001) and in right side had decrease of 3.046 ± 1.25 (P-value < 0.001) from base line. Comparison between two groups 12 weeks after treatment showed significantly more reduction (1.28 ± 0.64) of mMASI score with cocktail A than B (P-value < 0.001). Erythema, edema, and ecchymosis was not significantly different among two cocktails (P-value > 0.05). Conclusion: Use of combination mesotherapy in treatment of melasma was accompanied with appropriate outcomes regardless of type of agents but treatment with glutathione containing cocktail A presented superior results compared with cocktail of TA and vitamin C but not glutathione.
First case of Comamonas aquatica bacteremia complicated by septic shock
Premier cas de bactériémie due à Comamonas aquatica compliquée d'un choc septique
Kaeuffer C., Schramm F., Meyer A., Hansmann Y., Guffroy A., Argemi X.
Medecine et Maladies Infectieuses (2018) 48:8 (540-542). Date of Publication: 1 Dec 2018
Cellulite is a common dermatologic condition and frequent cause of cosmetic concern among women. This paper aims to update what is known about the pathogenesis of cellulite and reviews targeted treatment modalities that address its underlying components of microvascular dysfunction, endocrine-mediated inflammation, and connective tissue fibrosclerosis.
Female pattern hair loss (FPHL) is a common nonscarring alopecia characterized by progressive loss of terminal hairs. FPHL is a major concern for women and has a high impact on quality of life. Therapeutic regimen is often challenging and requires multiple combinations of topical, systemic, and interventional therapies to control hair loss and produce satisfactory hair regrowth. This article reviews common treatments of FPHL and their efficacy.
Introduction: Alopecia is often a cause of great concern to patients for cosmetic and psychologic reasons. The aim of treating non-scarring alopecias is to reduce hair loss and, to some extent, enhance hair regrowth. However, therapies for scarring alopecias are limited and aiming to halt disease progression. Nonetheless, available modalities of treatment come with numerous side effects. Areas covered: Many new treatments for non-scarring alopecias have been introduced in recent years. This review summarizes the safety concerns when using novel therapeutic modalities such as JAK inhibitors, hair transplantation, mesotherapy, oral minoxidil, platelet-rich plasma, microneedling, and 5α-reductase inhibitors for treating hair loss. A broad literature search was performed using PubMed and Google Scholar in April 2018 to compile published articles that reported the adverse effects of new therapeutic modalities for alopecia. Expert opinion: Although emerging therapeutic modalities for alopecia have demonstrated efficacy in hair regrowth and treating established disease, their safety profiles vary widely. When considering the new treatments for alopecia, physicians should weigh the potential benefits and risks of each treatment or combination treatment to ensure safe and successful outcomes.
Skin microneedling accelerates the process of skin regeneration through the creation of numerous microinjuries which emerge when skin is deeply punctured with very thin needles. The whole procedure evokes various reactions which can be divided into three major phases: inflammation, proliferation, and remodeling. It activates platelet growth factors which are responsible for the stimulation of fibroblasts to produce collagen and elastin. Moreover, skin breakdown enhances penetration of active ingredients. Treatment can be performed with the use of different devices, all equipped with needles of various lengths. Due to the fact that skin microneedling stimulates the synthesis of significant rebuilding and structural skin elements (collagen, elastin, proteoglycan), it is used in the treatment of many skin defects of different etiologies (e.g., photoaging, wrinkles, loss of elasticity, hypo- or hypertrophic scars, pigmentation changes, infraorbital dark circles, teleangiectasia, stretch marks, cellulite, alopecia, and vitiligo). In order to accelerate postsurgical regeneration and/or to enhance effects, microneedling is combined with the application of UV light (photodynamic therapy with ALA), LED light, platelet-rich plasma, chemical peels, stem cells, retinoids and other pharmaceuticals, and vitamins. High effectiveness, limited number of side effects, and short recovery time, make skin microneedling a popular cosmetic, and medical treatment.
Abdominal violaceous skin lesions of a 47-year-old woman following a geometric pattern
Lesiones cutáneas violáceas en el abdomen de una mujer de 47 años siguiendo una
distribución geométrica
Combalia A., Morgado-Carrasco D., Fustà-Novell X., Mascaró-Galy J.M.
Enfermedades Infecciosas y Microbiología Clínica (2018) 36:9 (598-599). Date of Publication: 1 Nov 2018
Microneedling is a popular and cost-effective treatment with little down time. The application of topical agents to enhance outcomes is common practice. Microchannels created with nonthermal needling close at 4 hours to 6 hours due to fibrin plugs. Channels created with thermal needling or fractional laser stay open longer and enhance drug or biological uptake more due to the dermal sponge injury pattern that is created. Nonthermal microneedling devices may need Food and Drug Administration clearance, which also notes that dermaceuticals should be considered drugs in many cases.
RECORD 11

Highlights of recent clinically relevant papers
Wright S.
Equine Veterinary Education (2018) 30:11 (571-572). Date of Publication: 1 Nov 2018
Paniculitis Due to Atypical Mycobacteria After Mesotherapy

García-Harana C., Aguilar-Bernier M., Segura-Palacios J.M., de Troya-Martín M.

*Actas dermo-sifiliograficas (2018) 109:8 (747).* Date of Publication: 1 Oct 2018
Background Cellulite is one of the most common skin and subcutaneous tissue conditions, affecting predominantly the thighs and hips in postadolescent women. Its etiology is not well defined, and multiple available treatments show variable efficacy. Objectives To describe a technique for treatment of cellulite of the gluteal region, thighs, and hips through superficial liposuction utilizing a special cannula, combined with subcutaneous autologous fat grafting. Methods A retrospective review was performed of patients treated over 26 years at the Hospital São Lucas, Pontifical Catholic University of Rio Grande do Sul, Porto Alegre, Brazil. Patients underwent pretreatment evaluation as to the extent of their cellulite, and pretreatment and posttreatment photographs were obtained for visual evaluation of the results. Results Procedures were performed on 126 patients: 121 (96%) women and 5 (4%) men. The majority considered their results good or excellent. The complication rate was low, with the most common complications being ecchymosis, contour irregularities, partial recurrence of cellulite, seroma, and numbness. Conclusions We describe an effective method for the treatment of cellulite. Whereas subcision techniques use a needle or microblade to cut fibrous septa, we utilize a special cannula; larger areas can be treated than with subcision. Fat grafting is utilized to correct depressions and improve skin quality, which are added benefits compared to traditional subcision. Considering the multiple available cellulite treatments and their limitations, and the high patient satisfaction rate we achieved, with a low recurrence and complication rate, this technique can be a safe and effective option for patients with cellulite. Level of Evidence: 4
CASE DESCRIPTION Over a 2-year period, 6 horses (4 Selle Français, 1 Hanoverian, and 1 Thoroughbred) were referred for evaluation of forelimb lameness. All horses had radiographic evidence of synostosis of the first and second ribs (SFSR). CLINICAL FINDINGS For 1 horse, the SFSR was considered the probable cause of the lameness (grade 3/5), with a shortening of the cranial phase of the stride in the affected limb. For 3 horses, it was considered a possible cause of the lameness (grade 1/5) for the same reason. For 2 horses, SFSR was considered an incidental finding unassociated with any clinical signs. The 4 horses with lameness suspected as attributable to SFSR had a moderate to severe amount of irregularly margined new bone formation at the site of the SFSR, with a cranial displacement of the first rib, compared with findings for the 2 horses in which the SFSR was considered incidental. A likely congenital abnormality of the first rib was first suspected on nuclear scintigraphy in the 1 horse for which it was performed or on radiography of the caudal cervical portion of the vertebral column (3 horses) or shoulder joint (2 horses).

TREATMENT AND OUTCOME The horse in which SFSR was considered the probable cause of the lameness was retired to the field and remained chronically lame. Two of the 3 horses in which SFSR was considered a possible cause of lameness received an IV infusion of tiludronate disodium and mesotherapy over the caudal cervical and cranial thoracic regions; both returned to competition but with poor results. One of the 2 horses with subclinical SFSR never developed lameness on the affected side. No follow-up information was available for the other 2 horses. CLINICAL RELEVANCE SFSR can be an incidental finding in horses, with or without clinical manifestations. This abnormality should be considered as a differential diagnosis for horses with forelimb lameness and associated shortening of the cranial phase of the stride that fails to improve with diagnostic analgesic techniques.
Introduction: The slowing of the aging process is subject of great research and attention in modern society, particularly aging of face. Processes involved are very complex. Mesotherapy, hyaluronic acid and carbon dioxide injection can be used for biorevitalization and skin rejuvenation. Methods: Three groups were made and 62 patients were enrolled. Patients with superficial wrinkles of the face, neck and/or décolleté, without presence of nasolabial folds and marionette wrinkles were included in group 1. Patients with superficial/medium depth wrinkles of the face, neck and/or décolleté, with moderate nasolabial folds but no marionette wrinkles were included in group 2. Patients with deep wrinkles of the face, with deep nasolabial folds and marionette wrinkles were included in group 3. Patients were treated with three different protocols that included injections of amino acids, vitamins and hyaluronic acid in association with carbon dioxide injection. We submitted the PAIS and GAIS scales and we analyzed the scores obtained with Wilcoxon’s and Kolmogorov-Smirnov’s tests. Statistical Product and Service Solutions (SPSS) software was used. The p-value was considered acceptable if inferior to 0.05 (p>0.05). Results: In accordance with these tests, the differences of values at one week and at the end of the study are significant (p<0.05) for both PAIS and GAIS. No side effects were reported. Conclusions: Protocol treatment used in this study gave statistically valid results in the rejuvenation of face for mild, moderate and severe aging.
Androgenetic alopecia (AGA), or male pattern baldness, is the most common cause of hair loss in men. There are several therapies available for the treatment of this condition, with 5-alpha reductase inhibitors and minoxidil most commonly used. Other current treatment options include laser therapy, scalp microneedling, hair mesotherapy, and hair transplantation. The development of new pharmacologic therapies has been slow; however, research is currently being conducted using Janus kinase inhibitors and autologous platelet-rich plasma injections in men with AGA.
Background: Recently, Phosphatidylcholine (PC) has been used as an off-label treatment for lipolysis injection, which is associated with inflammatory reaction due to sodium deoxycholate, an emulsifier, so that inflammation as side effect occurs in those patients. Liposome formulation from soybean lipid was thought to be a better and safer alternative. This study aimed to analyze the mechanism of Liposomal Soybean Phosphatidylcholine (LSPC) extract from Indonesian soybeans (containing 26% PC) to induce Adipose-derived Stem Cells (ASCs) death in vitro. Methods: Liposomes were prepared using thin film hydration method followed by a stepwise extrusion process to produce a small amount of 41.0-71.3 nm. Liposomal soybean phosphatidylcholine extract (LSPCE), liposomal purified PC (LPCC), and solution of PC+SD were used for comparison. Annexin V-fluorescein Isothiocyanate/ Propidium Iodide (FITC/PI) double staining by flow cytometry and also measurement of caspase-3 activity using ELISA were used to quantify the rate of apoptosis. ASCs viability was measured using MTT assay after induction with liposomes. Morphological changes were shown using a phase-contrast, inverted microscope and Transmission-Electron Microscope (TEM). Results: The flow cytometry results showed that cells treated with both LSPCE and LPCC showed increase in early apoptosis beginning at 6 hr after incubation, which was confirmed by caspase 3 measurement. MTT assay showed that both LSPCE and LPCC could decrease viability of cells. Cells treated with LSPCE and LPCC showed some rounded cells, which was an early sign of cell death. Cells treated with SD showed extensive membrane damage with necrosis features using TEM. Conclusion: The results above demonstrated that LSPCE induced apoptosis of ASCs.
Background: Topical minoxidil and oral finasteride are the only drugs approved for the treatment of androgenetic alopecia (AGA) in Spain. However, the management of this condition is highly variable because numerous treatments are used off-label. The main aim of this study was to describe the prescribing habits of dermatologists in Spain for male AGA (MAGA) and female AGA (FAGA).

Material and methods: Descriptive cross-sectional study using online questionnaires completed by dermatologists working in Spain. Results: The responses of 241 dermatologists were analyzed. The most common treatments prescribed for MAGA were minoxidil (98%), oral finasteride (96%), nutricosmetics (44%), topical finasteride (37%), oral dutasteride (33%), platelet-rich plasma (14%), and low-level laser therapy (8%). For premenopausal FAGA, the most common treatments were topical minoxidil (98%), oral contraceptives (81%), nutricosmetics (72%), cyproterone acetate (58%), oral finasteride (39%), topical finasteride (39%), spironolactone (27%), platelet-rich plasma (20%), oral dutasteride (20%), oral flutamide (18%), and low-level laser therapy (7%). Finally, for postmenopausal FAGA, the most common treatments prescribed were topical minoxidil (98%), oral finasteride (84%), nutricosmetics (68%), topical finasteride (50%), oral dutasteride (35%), platelet-rich plasma (21%), spironolactone (16%), cyproterone acetate (16%), oral flutamide (9%), and low-level laser therapy (9%). A limitation of our study is that we did not analyze novel AGA treatments such as oral minoxidil and dutasteride mesotherapy. Conclusions: The most common treatments prescribed for AGA by dermatologists in Spain are topical minoxidil, oral finasteride, and nutricosmetics for MAGA and postmenopausal FAGA and topical minoxidil, oral contraceptives, and nutricosmetics for premenopausal FAGA.
Safety and effectiveness of cosmetic minimaly invasive procedures among patients with systemic autoimmune disease
Reitblat O., Lerman T.T., Reitblat T.
Annals of the Rheumatic Diseases (2018) 77 Supplement 2 (1763). Date of Publication: 1 Jun 2018

Background: Noninvasive or minimally invasive cosmetic dermatologic procedures are considered safe with low parentage of reported adverse events. However, reliable prevalence data regarding adverse event of such cosmetic procedures among patients with systemic autoimmune diseases are insufficient. Objectives: To assess the occurrence of adverse events and disease exacerbation associated with noninvasive or minimally invasive cosmetic dermatologic procedures, including those involving hyaluronic acid fillers, botulinum toxins and laser application among patients with systemic autoimmune diseases. Methods: Consecutive cases of patients suffering from autoimmune diseases and attending the rheumatology clinic for regular follow-ups, were asked about receiving cosmetic procedures during the last two years. Medical history, including clinical and laboratory signs of disease exacerbation after the date of the procedure, was retrospectively obtained from medical files of the patients included in the study. Patients were also asked about subjective disease exacerbation and local adverse events after the procedure. Results: During the three months of study period, 148 patients were inquired. Nineteen patients (89% females) underwent 23 cosmetic procedures in total. Thirty-nine percent had Rheumatoid arthritis (RA), 39% had Ankylosing spondylitis (AS) and 22% had other systemic connective tissue disease. Sixty seven percent were treated by Disease-modifying antirheumatic drugs (DMARDs), 28% by Biologic treatment and 5% did not receive any specific treatment. All patients were in remission during the cosmetic procedures. Forty three and a half percent of patients underwent hyaluronic acid injection, 21.7% botulinum toxin injection, 21.7% laser application, 8.7% mesotherapy and 4.3% silicon injection. None of the patients suffered from subjective disease exacerbation after the procedure. No changes in antibody titer and level of acute phase reactants (C-reactive protein and erythrocyte sedimentation rate) were noticed. Two patients (10.5%) experienced local oedema after filler injections. Both patients received Hydroxychloroquine treatment (one patient with RA and one with AS). Conclusions: Our results suggest that noninvasive or minimally invasive cosmetic dermatologic procedures, including energy, neurotoxin, and filler procedures, may be safe among rheumatological patients, and do not cause autoimmune systemic disease exacerbation when performed in periods of remission. Hydroxychloroquine may predispose to a higher occurrence rate of local site injection adverse events. Further studied are desired to investigate this phenomena.
This study was conducted according to the method presented in the Republic of Korea Pharmacopoeia 11th Revision, aseptic test method to evaluate the suitability of sterilization for a sterile needle (4 Pin Multi-needle). In this study, four tests were conducted: Sterility test, cytotoxicity test, acute toxicity test, skin sensitization test. First, in the aseptic test, the microorganism was not proliferated in the aseptic test of the medium. As a result of the performance test of the medium, it was confirmed that the microorganism developed within 3 days and the fungus was evident within 5 days. Based on this, it was confirmed that the medium was suitable, and as a result of the aseptic test, the development of microorganisms was not observed during the total culture period. Based on these results, tests were conducted which were confirmed to be suitable for aseptic testing because the development of bacteria on the provided samples was not recognized. For cytotoxicity tests ISO10993-5; 2009 (Biological Evaluation of Medical Devices, Part 5: Test for in vitro Cytotoxicity). As a result, the MEM eluate of the test substance caused very slight cytotoxicity to the fibroblasts of the mouse and was judged to be Grade 1 (Slightly cytotoxic) according to the judgment standard of ISO 10993-5. On the other hand, solvent control, negative control and positive control showed the expected results on the test. Acute Toxicity Test Results: It was judged that there was no systemic toxicity change when ICR mice were treated with 50 mL/kg B.W. of the eluate of sterile injectable needle for 72 hours. Skin sensitization test result: The Hartley Guinea pig was evaluated as a substance which is evaluated as a substance which does not induce any skin reaction when skin sensitization is applied to the dissected material of the sterile injectable needle and is weak in skin sensitivity. Based on the above tests, we will study the stability and efficacy of more reliable medical devices based on the verification and performance of medical devices.
RECORD 21
Introduction to the Hot Topics in Aesthetic Surgery Supplement
Singer R., Kenkel J.M.
_Aesthetic Surgery Journal (2018) 38 Supplement 2 (S41-S42)._ Date of Publication: 15 May 2018
Purpose. The purpose of this study is to investigate the role and efficiency of the locally injected vitamin C in the enhancement of the palatally impacted canine movement. Materials and methods. Twelve adult patients with unilateral palatally impacted canines were included in this study. The enrolled patients were randomly allocated into the study groups; control group; conventional orthodontic traction and the intervention group: orthodontic traction enhanced by intraepidermic vitamin C injection. The study duration was 12 months. Results. The clinical evaluation revealed higher traction rate of the vitamin C enhanced group with preserved alveolar bone level, gingival biotype and width of the keratinized gingival tissues. Conclusion. Locally injected vitamin C is one of the potent eruption accelerator that has the advantage of keeping the integrity of the surrounding periodontium.
Scalp melanoma after antihair loss mesotherapy
Journal of the European Academy of Dermatology and Venereology (2018) 32:5 (e187-e188). Date of Publication: 1 May 2018
Microneedling for the treatment of hair loss?
Fertig R.M., Gamret A.C., Cervantes J., Tosti A.
Journal of the European Academy of Dermatology and Venereology (2018) 32:4 (564-569). Date of Publication: 1 Apr 2018

Microneedling is a minimally invasive dermatological procedure in which fine needles are rolled over the skin to puncture the stratum corneum. This therapy is used to induce collagen formation, neovascularization and growth factor production of treated areas. It has been used in a wide range of dermatologic conditions, including androgenetic alopecia (AGA) and alopecia areata, among others. While there are a limited number of studies examining this therapy in the use of hair loss, microneedling has been successfully paired with other hair growth promoting therapies, such as minoxidil, platelet-rich plasma and topical steroids, and shown to stimulate hair follicle growth. It is thought that microneedling facilitates penetration of such first-line medications, and this is one mechanism by which it promotes hair growth. To date, the area most studied and with the most success has been microneedling treatment of AGA. While the current evidence does not allow one to conclude superiority of microneedling over existing standard therapies for hair loss, microneedling shows some promise in improving hair growth, especially in combination with existing techniques. This review summarizes the current literature regarding microneedling in the treatment of alopecia and calls for further studies to define a standard treatment protocol.
Background: The epidermis is keratinized stratified squamous epithelium covered by hydro-lipid barrier. Vitamin C is a water-soluble antioxidant which protects skin from oxidative damage and rejuvenates photo-aged skin. There are different options of improving active substance penetration through the stratum corneum of the epidermis. One of them is noneedle mesotherapy which is a non-invasive rejuvenation technique involving electric pulses, electroporation, and ultrasounds. The use of these physicals factors results in deeper penetration of active ingredients. The other one is micro-needle mesotherapy which is nonsurgical therapy, which could cause the controlled inflammation. Micro channels are formed by needles during the skin puncture, that facilitate penetration of the active ingredients. Aims: The aim of the study was to assess the efficacy of L-ascorbic acid applied in combination with no-needle and micro-needle mesotherapy in anti-aging therapy. Materials and Methods: This study involved 17 healthy volunteers, 2.5 ml of serum containing 20% L-ascorbic acid with hydrate from strawberries was used topically in every of 4 treatments. No-needle mesotherapy was applied on the left half of the face while microneedle mesotherapy in combination with the same serum was performed on the right half of face. Results: In vivo studies confirmed the effectiveness of both methods. Conclusion: The impact of active substance on skin firmness and elasticity as well as the degree of hydration and skin tone was more efficient after micro-needle mesotherapy.
Objective. To evaluate the therapeutic effectiveness and safety of mesotherapy by comparing it with the classic systematic therapy in patients with osteoarthritis (OA). Methods. Sixty patients were included and classified into two groups based on the existence of contraindications for nonsteroidal anti-inflammatory drugs (NSAIDs). These patients were treated with oral NSAIDs (Group A) or mesotherapy (Group B). After completing the treatment, the patients were followed up for 6 months. Their clinical features, laboratory results, and Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) scores were evaluated. Results. A total of 50 patients completed treatment and follow-up. The patients in Group B had significantly fewer gastric acid-related complaints and requested less supplementary treatment for recurrent pain (p<0.05). The patients in both groups exhibited decreased blood viscosity after treatment (p<0.05). WOMAC scores, specifically those for pain and stiffness, were found to be significantly improved after either type of treatment (p<0.05). Mesotherapy also ameliorated physical function (p<0.05). Furthermore, Group B presented with better outcomes than Group A (p<0.05 or p<0.01). Conclusion. Our results suggest that mesotherapy is an effective and safe treatment for patients with OA. Clinicians should consider mesotherapy as an alternative therapy for patients with contraindications for NSAID use.
Evaluation of the effect of mesotherapy in the management of back pain in police working dog
Alves J.C., dos Santos A.M., Fernandes D.
Veterinary Anaesthesia and Analgesia (2018) 45:1 (123-128). Date of Publication: 1 Jan 2018

Objective: To evaluate the feasibility and effectiveness of mesotherapy in dogs compared with a positive control group. Study design: Experimental, randomized, blinded study. Animals: Fifteen working police dogs with chronic back pain. Methods: Animals were divided randomly into control (CG; n = 5) and treatment groups (TG; n = 10). A combination of 140 mg lidocaine, 15 mg dexamethasone and 20 mg thiocolchicoside was administered to group TG along with a 70-day course of a placebo, administered as if it was carprofen. Carprofen was administered to Group CG for 70 days, at a dose adjusted to their weight. On day 0, an intradermal injection of Ringer's lactate was also administered. Both groups were rested for 3 days and resumed normal activity over a 5-day period. Response to treatment, measured by the Canine Brief Pain Inventory (CBPI) and the Hudson Visual Analogue Scale (HVAS), was evaluated before treatment (T0), after 15 days (T1) and 1 (T2), 2 (T3), 3 (T4), 4 (T5) and 5 (T6) months. Results were compared using a Mann–Whitney test or a paired samples t test. Results: When comparing CBPI results, no differences were found between groups TG and CG at T0 through T3 and in T6 and T7. Differences were observed in CBPI sections after the discontinuation of carprofen: at T4 [p = 0.02 for Pain Interference Score (PIS) and p = 0.03 for Pain Severity Score (PSS)] and T5 (p = 0.16 for PIS and p = 0.03 for PSS), with group TG having overall better results. Individual treatment results were considered successful in one dog of group CG (20%), whereas in group TG, success was higher (ranging from 78% at T1 to 22% at T7). No significant differences were registered with the HVAS. Conclusions and clinical relevance: Mesotherapy may be a promising treatment option for canine musculoskeletal-related pain. Further studies are required.
In Mexico there is a proliferation of "centers for aesthetic medicine" that offer different treatments with laser beam, mesotherapy and hyaluronic acid and botulinum toxin injections. In numerous centers of this type, offered and performed by medical personnel that are neither trained or certified to ensure the quality of services. The National Academy of Medicine of Mexico and the National Normative Council for Medical Specialties (CONACEM) communicate their posture on this matter.
Facial deformities and their repair by the aestheticians
Lafiati H., Kalofiri P., Papageorgiou S., Thalassinos N.

Facial deformities are a major problem and originate either from congenital or from acquired malformations. With the term "congenital malformation" we mean the result of some protest during the formation of the fetus, which can take place between the sixth day and the end of the seventh month of pregnancy. With the term "acquired malformation" we mean the deformities which somebody acquires during his life. The aestheticians can play a very significant role not only in the restoration of the damage but also in the improvement of the psychological condition of the patient.
Chen L., Li D., Zhong J., Qiu B., Wu X.
Date of Publication: 2018

In the article titled "Therapeutic Effectiveness and Safety of Mesotherapy in Patients with Osteoarthritis of the Knee" [1], Dr. Bo Qiu should be listed as a corresponding author along with Xianglei Wu.
Traditional, complementary, and alternative medicine practices are used in the prevention, diagnosis, and treatment of a wide variety of diseases in the world. Such practices in Turkey are regulated by the “Regulation of Traditional and Complementary Medicine Practice” issued by the Ministry of Health in the Official Gazette of the Republic of Turkey (Issue: 29158, 27th October 2014). The appendix of this regulation defines 15 practices that can be applied in units and practice centers. These applications include; 1. Acupuncture, 2. Apitherapy, 3. Phytotherapy, 4. Hypnosis, 5. Leech therapy (Hirudotherapy), 6. Homeopathy, 7. Chiropractic, 8. Cupping, 9. Maggot therapy, 10. Mesotherapy, 11. Prolotherapy, 12. Osteopathy, 13. Ozone therapy, 14. Reflexology, and 15. Music therapy. In this review, the indications of these 15 applications in the field of neurology are examined and current opinions of the evidence-based medical data are summarized.
Cavitation. A local fat treatment method with effect of ultrasound
Kefala V., Biskanaki F., Andreou E., Rallis E.

The reduction of local fat using invasive methods such as liposuction is performed with excellent results. Chances of complications (1,2) have led scientists to look into the treatment of local fat accumulation (in tummy, thighs, buttocks, etc.) in non-invasive methods (3,4). Many non-invasive techniques with temporary effects have been implemented such as radio frequency, cryolipolysis, low power laser, mesotherapy (5). However, the application of ultrasound as a non-invasive procedure contributes to the effective treatment of local fat. For local fat reduction, tightening, or both, low intensity and low-frequency non-thermal ultrasound and High Intensity Focused Ultrasound (HIFU) have been implemented (6,7,8).
Tattoo popularity continues to rise, with 3 in 10 Americans bearing at least one. Among tattoo complications, non-tuberculous mycobacteria (NTM) has emerged as a global public health concern. NTM infections associated with tattooing of immunocompetent individuals have occurred as sporadic cases and community outbreaks. Water sources are considered the major pathogenic reservoirs. Tattoo-related inoculation has been linked to contamination of ink, either during the manufacturing process or during dilution of black ink using non-sterile water. NTM infections have also been documented in a number of cosmetic and surgical procedures, including cutaneous surgery, Mohs micrographic surgery, mesotherapy, liposuction and laser resurfacing. NTM inoculation through exposure to contaminated water or non-sterile instruments remains a challenge for dermatologists and risk to patients. We reported a case of cutaneous Mycobacterium massiliense infection following tattoo placement. This report underscores the importance of clinicians to consider NTM infections in the differential diagnosis of procedure-related reactions.
In vitro study of RRS® silisorg CE class III medical device composed of silanol: Effect on human skin fibroblasts and its clinical use
Medical Devices: Evidence and Research (2018) 11 (313-320). Date of Publication: 2018

Introduction: Silanol (organic silicon) has been used for decades in the treatment of skin photoaging as it stabilizes and maintains skin structures through hydrogen bonding electrostatic interaction with extracellular matrix (ECM) proteins or glycosaminoglycans. Organic silicon-based products are often presented as silanol derivatives which are currently associated to other structural molecules such as orthohydroxybenzoate, carboxymethyl theophylline alginate, ascor-bate, acetyltyrosine, sodium lactate or mannuronate. Consequently, organic silicon formulations may differ substantially between the medical devices available on the market, which may result in additional effect on the skin. Therefore, there is a real need for a better characterization of the products in terms of their action on human skin and in vitro skin model. Materials and methods: In this in vitro study, the effect of RRS® Silisorg was analyzed. RRS® Silisorg is a dermal implant (CE Class III medical device) containing monomethylsilanol mannuronate associated to an antioxidant resveratrol. Skin fibroblast viability and capacity to induce the production of key ECM genes were evaluated in the presence of different concentrations of RRS® Silisorg. The key ECM genes selected were collagen type I, elastin and hyaluronan synthase type 2 (HAS2), which is the cellular enzyme responsible for high-molecular weight hyaluronic acid (HA) production. Viability was evaluated through 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) assay and expression was quantified by quantitative polymerase chain reaction. Results: RRS® Silisorg increased fibroblast gene expression of HAS2 in the first 24 hours, 25 times in the presence of 1 mg/mL of solution, followed by a collagen type I gene expression (4.7 times) and elastin expression (2.5 times) increase after 48 hours. Conclusion: These results demonstrate that the silanol-based medical device RRS® Silisorg sustains HA, collagen and elastin production in human skin fibroblasts in vitro.
Background: The side effects of mesotherapy for treatment of various forms of alopecia are often underreported, while scientific data for its efficacy are severely lacking. Objective: To demonstrate the late onset side effects of mesotherapy for alopecia. Methods: Three patients with androgenetic alopecia showed hair loss after previously uneventful mesotherapy sessions up to 1 year. Results: Clinical, dermoscopic, and histopathological findings suggested an inflammatory scarring process at sites of mesotherapy injections. Conclusion: Mesotherapy for androgenetic alopecia may paradoxically induce hair loss and scarring. Proper regulation and monitoring of the use of mesotherapy products for treating hair loss in women, needs to be addressed.
RECORD 36
Intense Local Reaction at the Sites of Injection of Lipolytic Mesotherapy
Reacción Local Intensa en Zonas de Inyección de Mesoterapia Lipolítica
Córdoba S., Rojas E., Garrido-Ríos A., Borbujo J.
Actas Dermo-Sifiliograficas (2017) 108:10 (958-959). Date of Publication: 1 Dec 2017
All-trans retinoic acid induces mitochondria-mediated apoptosis of human adipose-derived stem cells and affects the balance of the adipogenic differentiation
Biomedicine and Pharmacotherapy (2017) 96 (1267-1274). Date of Publication: 1 Dec 2017

The all-trans-retinoic acid (ATRA) is the most active form of vitamin A that helps to regulate the proliferation, differentiation and apoptosis of several types of cells, mainly the adipocytes, and causes weight loss through the reduction of adipogenesis and lipogenesis. In this present study we demonstrated that ATRA concentrations of 20.75, 50 and 100 µM decreased the cell viability in vitro of human adipose-derived stem cells (ADSCs), and in ADSCs during adipogenic differentiation. The cells cycle assessment showed that ATRA increased the cell frequency in Sub-G1 at 4.02x and decreased it in G1 in 2.54x. Moreover, the membrane integrity loss increased by 4.66x and apoptosis increased by 33.56x in ATRA-treated cultures. The gene expression assay suggested that the treatment using ATRA leads to mitochondrial membrane permeabilization and to consequent release of proapoptotic BAK and BAX molecules (increased expression 5.5 and 5.4x respectively); in addition, it increased CASP3 expression (by 8.8x). These events may activate the Bcl-2 (4.1x increase), GADD45 (increase 3.14x) and PPAR-γ (16x increase) expressions, as well as, to reduce the p53 (by −1.38x) expression; therefore, these events should be further mediated by increased RARα expression (by 3.8x). The results evidenced that ATRA may be a good proposal for mesotherapy strategies in order to control the development of subcutaneous adipose tissue; as this tissue have a higher development in some specific areas and ATRA interferes not only in the ADSCs differentiation but also in the apoptosis of ADSCs, preadipocytes and adipocytes.
RECORD 38
Intense Local Reaction at the Sites of Injection of Lipolytic Mesotherapy
Reacción local intensa en zonas de inyección de mesoterapia lipolítica
Córdoba S., Rojas E., Garrido-Ríos A., Borbujo J.
*Actas Dermo-Sifiliograficas* (2017) 108:10 (958-959). Date of Publication: 1 Dec 2017
RECORD 39
Erythema multiforme-like reaction resulting from vitamin K(1) oxide (phytomenadione epoxide)
*Contact Dermatitis (2017) 77:5 (343-345).* Date of Publication: 1 Nov 2017
In the past decade, phototherapy with light-emitting diodes (LEDs) has attracted a great deal of attention with an increasing body of evidence proving efficacy and demonstrating mechanisms of action. Low level light therapy (LLLT) with LEDs at the wavelength of 830 nm offers many applications as monotherapy, but probably even more exciting is the ability to use LED-LLLT as an adjunct to existing surgical and nonsurgical approaches. Deep-penetrating near infrared energy has the powerful ability to enhance wound healing, even in wounds which have proved resistant to other modalities, to increase local blood flow, limit bruising and reduce oedema, erythema and pain. Because of this, LED-LLLT at the 830 nm wavelength can be used after any existing aesthetic procedure: from mild microdermabrasion, vitamin iontophoresis and mesotherapy, platelet-rich-plasma applications, through fractional ablative and nonablative skin rejuvenation all the way to invasive surgical approaches such as full-face ablative laser resurfacing and rhytidectomies. Wound healing is enhanced and accelerated, by as much as one-half of the normal period: prophylaxis against scarring is also part of the 830 nm-mediated effect, in addition to eliminating bruising and dramatically reducing oedema, erythema and pain. The basis for the success of near-IR LED-LLLT lies in its affinity for the wound healing cells at all three stages of wound healing, and also for photoactivation of the epidermal keratinocytes to ensure that patients see improvements in the epidermis in addition to the ones they can't see in the dermis. This obviously results in happier patients. Mechanisms will be discussed and some clinical examples shown. LED phototherapy systems are comparatively inexpensive because of the technology on which they are based, but the potential buyer should always be aware that criteria exist regarding wavelength and intensity which must be met before LED-LLLT can fulfill its full potential as an excellent adjunctive tool for the aesthetic and cosmetic clinician.
Comparative case study aimed to analyze efficacy of two peptide formulas: F1 with molecular weight 1-10 kDa and F2: combination of 1-10 kDa with 45-65kDa. Twice a week injections performed 6 weeks on 10 volunteers for each formula spending 2 ml on upper face. All 20 volunteers completed protocol and showed improvement 45-50% on F1 and 60-75% on F2 in skin tightening and texture at end of treatment vs 35-45% and 50-60% at 3 months later respectively. Clinical improvement of wrinkles ranged from good to moderate in F1 and good in F-2. Starting from week 3 average roughness decreased by 14.1% and 19.7% on F1 vs to 27.6% and 34.5% on F2 at end of study and 3 months after. Total wrinkle height decreased by 23.4% and 17.3% on F1 and by 26.7% and 25% at end and 3 month later for F2. Collagen type I and type III showed highest on F1: 68.6% and 67.2% vs F2 changes 69% and 69.4% accordingly (P≤0.05). F1 showed newly synthesized collagen 14.6%, 17.5% and 16.3% before, at end and post treatment compare to F2 which has more significant result 14.7%, 18% and 17.2% respectively (P≥0.05). Quantitative evaluation of type VII collagen revealed differences between F1 and F2: 10.2% vs 10.6% at baseline, 11.2% vs 12.6% at end and 10.9% vs 11.9% at 3 months post-treatment. Total dermal elastin on F2 and tropoelastin levels increased compare to F1: 14.2% vs 13.2% prior to treatment, 16.8% vs 14.2% levels at end and 15.2% vs 13.8% at 3 months later P<0.05. Both formulations achieved good outcome on 4 weeks of treatment with high patient satisfaction confirmed by GAIS scale. In conclusion, minimally invasive mesotherapy with F1 and F2 demonstrated effectiveness supported by instrumental and clinical evaluations. Obtained results confirmed F2 statistically considerable outcomes on treatment and prolonged effect compare to F1. Clinically F2 appeared visible on periorbital area smoothing numerous fine lines whereas F1 revealed highly noticeable effect on forehead. In future clinical practice it is advisable to use both formulas on different areas in accordance to achieve maximum result.
Introduction This article shares the findings of a preliminary survey undertaken for the Ministry of Health in Turkey to help develop their policies on the use of Traditional and Complementary Medicine (T&CM). The primary aim was to find out how T&CM is used by the patients as a part of their treatment processes and also to find out whether some practices that are not included in the Western description of T&CM are in common use in Turkey and their cultural implications.

Methods This cross-sectional, paper-based questionnaire survey was carried out in 39 public hospitals and 21 general practice clinics within seven geographical areas of Turkey. Patients in the waiting rooms with an appointment on that particular day were included. Results 2770 women (47.1%) and 3112 men (52.9%) participated in the survey. The overall T&CM use was 60.5%. Women's frequency of T&CM use was higher than men (P = 0.001). Strong gender component of T&CM use needs further quantitative research taking cultural aspects into consideration. 59.4% of the participants who used T&CM reported that it was recommended to them by others and only 54.3% shared information about their use of T&CM with their physicians. Leech therapy and cupping prevalence was higher in Turkey compared to other countries possibly due to religious and cultural beliefs. Conclusion The frequency of T&CM use is high which was a reflection of belief-based therapeutic approaches in other words, there is a divide between traditional medicine and complementary and alternative medicine in Turkey, which needs to be separately evaluated.
Introduction: Liposuction and mesotherapy are popular treatments for fat reduction of lower face, but because these treatments are invasive, a novel non-invasive treatment with similar or better efficacy has been sought. There are various devices such as CoolSculpt, laser, RF, and HIFU that are used as non-invasive treatments for fat reduction and body contouring, but these applications have not been applied to facial fat reduction. In this study, we selected Monopolar 1-MHz RF for body contouring to be applied for fat reduction and tightening of the lower face. Material and Methods: From March through August of 2016, we treated fourteen Asian women (average age: 44.6 years old) for fat reduction and tightening of the lower face using 1-MHz Monopolar RF (truSculpt™, Cutera, Inc., Brisbane, CA). We performed the treatment primarily in the nasolabial fold and buccal area weekly for five consecutive weeks, and evaluated the effects for fat reduction and tightening before each treatment and for 2 months after the treatment using handy VECTRA 3D® (Canfield Scientific, Inc.) for imaging. Three-dimensional (3D) volumetric assessments were performed at pre- and post-two-months after treatment. Patients rated their satisfaction for tightening using a 5-points scale. Results: During the study, more than ninety percent of patients showed volumetric change by fat reduction at the treated area, with an average of 2.7 ml. Sixty percent of patients were either “satisfied” or “very satisfied” with the tightening effects. The treatments were accompanied only by very mild heat pain. Efficacy was maintained for 2 months after the treatments, and three patients showed a higher fat reduction effect at 2 months after the final treatment compared with the final treatment. A mild redness was observed just for few hours after the treatment, but complications such as, swelling, induration, burn, sensory disturbance or facial paralysis, were not observed. Conclusion: In this study, we found that Monopolar 1-MHz RF applied with a stationary applicator was effective especially for lower face fat reduction and with a tightening effect in facial contouring. A highly efficacious treatment with satisfactory comfort and safety can be achieved with no downtime, and the device has the potential for becoming one of the standard non-invasive treatments for fat reduction of facial contouring. Lasers Surg. Med.49:750–755, 2017. © 2017 Wiley Periodicals, Inc.
Recently-introduced biocompatible polymeric microneedles offer an efficient method for drug delivery. Tranexamic acid is a novel drug for treating melasma that is administered both locally and orally and inhibits excessive melanin via melanocyte. The tranexamic acid biocompatible polymer microneedle used in this study was fabricated from PVP and methacrylic acid, using the lithography method. The required mechanical strength to pierce skin was attained by optimizing the ratio of PVP to methacrylic acid. Acute dermal toxicity was done, and drug diffusion in skin layers was simulated by calculating the diffusion coefficient of tranexamic acid in interstitial fluid (plasma). The biocompatible polymer microneedle was fabricated at 60 °C. Needles could sustain 0.6 N that is enough to pierce stratum corneum. 34% of the released drug was locally effective and the rest permeated through the skin. The pyramidal polymer microneedle in this study was fully released in skin in approx. 7 h. This polymer microneedle has no dermal toxicity.
Efficacy of autologous platelet-rich plasma combined with hyaluronic acid on skin facial rejuvenation: A prospective study


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Background: Cellulite affects the majority of women and is an unacceptable cosmetic defect. Therefore, effective methods for cellulite reduction are being sought. Intradermal mesotherapy is one of such methods. Objective: The aim of the study was to assess the efficacy of intradermal mesotherapy in cellulite reduction, using conventional and high-frequency ultrasound. Methods: Twenty-one women with cellulite underwent a series of intradermal mesotherapy procedures. The following parameters were assessed: thickness of epidermis, dermis and hypodermis, echogenicity of dermis and the surface area of serrated hypodermis–dermis junction. Furthermore, the thigh circumference was measured; body mass index and cellulite severity were assessed based on photographs using Nürnberger–Müller’s scale. Results: Intradermal mesotherapy reduced severity of cellulite. The surface area of serrated hypodermis–dermis junction and hypodermis thickness decreased significantly as compared to baseline. Cellulite reduction was also confirmed by palpation, decreased thigh circumference and the Nürnberger–Müller’s grade. There were no statistically significant changes in epidermis or dermis thickness, body weight and the BMI. Conclusion: Intradermal mesotherapy offers effective cellulite reduction. It is a simple and safe treatment, which makes it popular. Further research in mesotherapy is essential due to a limited number of published studies. Ultrasound is a useful method to monitor intradermal mesotherapy and assess its efficacy.
Influence of low-level laser on pain and inflammation in type 2 diabetes mellitus with diabetic dermopathy—A case report


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Numerous skin lesions have been commonly observed in individuals with diabetes mellitus. The common skin manifestations of diabetes mellitus are erythrasma, xanthomatosis, xanthelasma, phycomycetes and cutaneous infections like furuncolosis, candidiasis, carbuncle, dermatophytosis, etc. Diabetic dermopathy is the most common skin lesion found in patients with diabetes. It is typically seen in men aged above 50 years. In low-level laser therapy (LLLT), the entire lower limb was illuminated with the frequency of 20 Hz and wavelength of 830 nm for 9 min, and the treatment was divided into four parts. With the continued sessions of LLLT, the skin manifestations and neuropathy conditions improved drastically. On the 21st day, the skin colour was found to be normal. Also, there were significant changes in clinical findings for diabetic peripheral neuropathy. LLLT with specific exercises can promote healing of skin manifestations in individuals with type 2 diabetes mellitus. It can be used as an effective treatment modality for treating diabetic dermopathy.
Background: Achieving a satisfying quality of life for a patient by applying individually matched therapy is, simultaneously, a great challenge and a priority for contemporary medicine. Patients with visible dermatological ailments are particularly susceptible to reduction in the general quality of life. Among the dermatological diseases, acne causes considerable reduction in the quality of life and changes in self-perception that lead to the worsening of a patient’s mental condition, including depression and suicidal thoughts. As a result, difficulties in contact with loved ones, as well as social and professional problems are observed, which show that acne is not a somatic problem alone. To a large extent, it becomes a part of psychodermatology, becoming an important topic of public health in social medicine practice. Pharmacological treatment of acne is a challenge for a dermatologist and often requires the necessity of cooperating with a cosmetologist. Cosmetological treatments are aimed at improving the condition of the skin and reduction or subsiding of acne skin changes. Aim: The aim of this study was to assess the influence of selected cosmetological treatments on the general quality of life of patients with acne. Materials and methods: The study group consisted of 101 women aged 19–29 years (x =22.5 years, SD =2.3 years). All subjects were diagnosed with acne vulgaris of the face. In the study group, the acne changes occurred over the course of 3–15 years (x =8.1 years, SD =2.7 years). Selected cosmetological treatments (intensive pulsing light, alpha-hydroxy acids, cavitation peeling, needle-free mesotherapy, diamond microdermabrasion and sonophoresis) were performed in series in the number depending on the particular patient’s chosen treatment, after excluding contraindications. General quality of life of the patients was estimated using the Skindex-29 and Dermatology Life Quality Index (DLQI) questionnaires, before and after the cosmetological treatment. Results: Statistical analysis of the data obtained from the Skindex-29 questionnaire in areas (emotions, symptoms and physical functioning) and DLQI questionnaire in areas (daily activities, leisure, work and school, personal relations and treatment) showed great improvement in the general quality of life after applying a series of cosmetological treatments. The results are statistically relevant at P<0.0001. Conclusion: The cosmetological treatment significantly improved the general quality of life of patients with acne vulgaris and their skin condition, which was evaluated by the Hellgren–Vincent scale. It was proven that therapy performed in cosmetological clinics may become an integral part of or complete dermatological treatment.
Mesotherapy is widely used for its lipolytic effect as an alternative procedure to surgical methods. Although many benefits of lipolytic mesotherapy have been observed, numerous side effects have also been reported. Here, we report a case of cutaneous foreign body granulomas that occurred after lipolytic mesotherapy.
Introduction: Melasma is a distressing condition for both dermatologists and patients. We evaluated the effectiveness of salicylic acid (SA) peel and vitamin C mesotherapy in the treatment of melasma. Materials and methods: Fifty female patients were divided into two groups. All patients were treated with 30% SA peel every two weeks for two months. In addition, after SA peeling Group A was intradermally administered 10 vitamin C on the melasma lesion at 1-cm intervals. All patients were followed up for 6 months, during which the recurrence rates were evaluated. Digital photographs of the melasma site were taken and patients’ Melasma Area and Severity Index (MASI) scores were assessed. After the treatment, the patients were asked to complete the melasma quality of life questionnaire (MelasQoL) to evaluate their satisfaction with the treatment. All the adverse effects were noted. Results: The MelasQoL and MASI scores of patients in both groups significantly decreased after the treatment. Apart from a burning sensation, no adverse event was observed and all patients tolerated the treatment well. Discussion: SA peel combined with vitamin C mesotherapy is a safe and effective alternative for the treatment of melasma with no significant side effects and minimal downtime.
RECORD 52
Editorial
Goldberg D.J.
Platelet-rich plasma (PRP) has emerged as a new treatment modality in regenerative plastic surgery and dermatology. PRP is a simple, cost-effective and feasible treatment option with high patient satisfaction for hair loss and can be regarded as a valuable adjuvant treatment modality for androgenic alopecia and other types of non-scarring alopecias. Authors have proposed a hair model termed "Golden anchorage with 'molecular locking' of ectodermal and mesenchymal components for survival and integrity of hair follicle (HF)" in this article. Golden anchorage comprises of bulge stem cells, ectodermal basement membrane and bulge portion of APM. PRP with its autologous supply of millions of growth factors works on 'Golden anchorage' along with keratinocytes (PDGF), dermal papilla (IGF and fibroblast growth factor), vasculature (VEGF and PDGF) and neural cells (Nerve Growth Factor) in a multipronged manner serving as an 'elixir' for hair growth and improving overall environment.
Many different non systemic corticosteroid administrations can cause iatrogenic Cushing’s Syndrome (CS). We herein report a case series of iatrogenic CS from keloid scars treatment and aesthetic regimen called mesotherapy. Our first patient developed CS after having exceeded recommended dose of intralesional injection of Triamcinolone Acetonide (TAC). Second case presented with CS followed by unidentified mesotherapy treatment for local fat reduction. Subcutaneous injections of dexamethasone were found to be the part of mesotherapy regimen in one case. Physicians should be insightful in prescribing TAC especially in those patients who have high predisposing factors for developing CS. In the same way, off-label mesotherapy combine with corticosteroid can lead to iatrogenic CS and Hypothalamic-Pituitary-Adrenal (HPA) axis suppression. Currently, there are no standard guidelines for mesotherapy treatment. Therefore, further clinical trials on dosage, duration and effective combination of mesotherapy regimens are needed to increase safety uses.
Mesotherapy, or intradermal therapy, is a therapeutic approach that is gaining popularity, but there is still a significant lack of information on its mechanisms of action or the pharmacokinetics of the therapeutic regimens. This retrospective study on 220 records compared the short-term and long-term effects of mesotherapy using a mixture of drugs versus normal saline solution in the treatment of patients with chronic spinal pain (CSP). At the end of treatment, outcome measures showed a significant improvement (P<0.003) in both groups, which persisted at the follow-up assessments. At 12 weeks of follow-up, the improvement was significantly greater in patients treated with the drug cocktail than with the saline solution (P<0.05). Mesotherapy was effective in patients affected by CSP, with high patient satisfaction reported irrespective of the agent used. Considering the risks and costs of drugs, normal saline solution appears to be the best agent in cost-benefit terms for treating localized pain by mesotherapy in CSP.
Tightening of eyelid skin and improvement of rhytids and overall skin texture is a common reason for cosmetic consultation to a dermatologic surgeon. The thin skin of the lower eyelid undergoes cutaneous aging manifested by wrinkling, texture changes, and dyschromia. These changes interfere with the facial appearance, giving the patient a tired, sad, or hungover look. Many people used to try a myriad of much-hyped creams to get rid of their eye bags and dark circles, only to be ultimately disappointed. Although prolapse of orbital fat and hypertrophy of the orbicularis muscle require a surgical blepharoplasty, other many modalities of lower eyelid rejuvenation have been described, including chemical peels, laser skin resurfacing, radiofrequency tightening, intense pulsed light, filler injections, and botulinum toxin. The use of various types of filler techniques has been discussed earlier, however, to obtain a smooth esthetic outcome is a challenge in the infraorbital area. Mesotherapy/biorevitalization with hyaluronic acid (HA) is a treatment approach currently used for skin rejuvenation. Various products with a wide range of polycomponent formulations are available on the market. Most of these formulations contain non cross-linked HA in combination with a biorevitalization cocktail, formed by various amounts of vitamins, minerals, amino acids, nucleotides, coenzymes, and antioxidants. Here we report two cases of lower eyelid laxity treated by injection of biorevitalizing HA filler directly into the eyebag area.
Background: The escalating urge for a youthful-looking skin instigates continuous innovations with minimally invasive procedures. Readymade growth factors and autologous platelet-rich plasma (PRP) represent such therapeutic interventions. Objective: Compare the efficacy and safety of PRP to readymade growth factors in skin rejuvenation. Patients and Methods: Twenty adult females with Fitzpatrick skin types III-IV and Glogau photoaging types II and III were enrolled in this study. They underwent a split face therapy where each side was randomly assigned to treatment by either readymade growth factors (area A) or autologous PRP (area B). All patients received six sessions at 2-weeks interval. Evaluation was carried out using Global Aesthetic Improvement Scale (GAIS) and optical coherence tomography (OCT). Patients were followed up for 6 months. Results: Both procedures yielded significant improvement regarding both GAIS (skin turgor and overall vitality) and OCT (epidermal and dermal thickness) assessment. Significant negative correlation was detected between patients' age, sun exposure, and GAIS. Burning sensation was significantly higher in area A. Patient satisfaction was significantly higher in area B. Improvement was more sustained in area B on follow-up. Conclusion: Platelet-rich plasma is effective and safe for skin rejuvenation, comparable to readymade growth factors with noticeable higher longevity.
INTRODUCTION: Looking at alternatives to standard injectables and devices for rejuvenation, typical indications for facial rejuvenation are poor skin quality, pigmentary changes, and the loss of shape. Looking for effective treatments for those indications in the aesthetic field, one can notice a kind of "retro"-trend: easy-to-perform, non- or minimally-invasive, low-investment-requiring procedures are regaining a lot of popularity. And, over time, those treatments are becoming well defined and far more specific.

OBJECTIVE: To discuss an indication-specific full-face concept for facial rejuvenation using alternatives to standard injectables and devices for rejuvenation.

MATERIALS AND METHODS: The strategy of this indication-specific full-face concept is based on a three-pillar-principle: regeneration, regulation, and reshaping. In parallel to this concept, major indications such as poor skin quality, pigmentary changes, and loss of shape and definition are discussed. To address those indications, therapeutic principles such as topicals (cosmeceuticals, magistral formulations), mesotherapy, needling, chemical peelings, injection lipolysis, and thread lifting will be demonstrated.

CONCLUSION: As an alternative to standard injectables and devices, an indication-specific approach for a concept of full-face rejuvenation is based on the three-pillar-principle of regeneration, regulation, and reshaping by easy-to-perform, non- or minimally-invasive procedures for rejuvenation.
Case Description
A 9-year-old, 33.4 kg (73.63 Lb) male entire drug detection Labrador Retriever Dog was presented with an history of constant lameness from the right thoracic limb, aggravated with exercise and work. Clinical Findings Clinical examination revealed mild signs of pain on the manipulation of the elbow joint, with reduced range of motion on the end feel of joint flexion and extension and crepitation. Radiographic examination of the right elbow joint revealed severe, chronic osteoarthritis, with osteophyte formation on the humeral epicondyles and articular margin of the distomedial humerus, with a narrowed joint space, and osteophytes on the proximal radius, proximomedial ulna, and anconeal process. Treatment and Outcome A solution comprised of a combination of lidocaine, thiocolchicoside, and piroxicam was prepared and applied around the right elbow joint. The animal was rested for 3 days and normal work load was introduced over a 5-day period. The CPBI was completed by the trainer before treatment (T0), 14 days (T1), 1 (T2), 2 (T3), 3 (T4), 4 (T5), 5 (T6), and 6 (T7) months after treatment. Following the mesotherapy session, pain score results consistently declined until the 3-month evaluation moment. At the 6-month follow-up evaluation, values have risen to near baseline values. No side effects were recorded. Clinical Relevance Mesotherapy produced significant reduction of pain score results, as measure by the CBPI, and may be a promising treatment option for canine osteoarthritis-related pain. Further studies are required.
The lower third of the face is supported by the basal border of the mandible and centred by the oral and perioral region (smile). The aging of this region is mostly due to change in its environment (skin, muscle and bone). Chronodermie: the programmed aging, interested melting of the various components of this environment with age (bone loss related to the evolution of the dental condition, muscle atrophy, sagging skin, etc). Heliodermatitis: aggravated aging, especially interesting the superficial dermis with variable intensity elastolysis giving vertical wrinkles above the upper lip.

We report our experience about therapeutic methods of rejuvenation lower third of the face which must fight against the forces of gravity in 50 aged patients consulting the maxillofacial and dental department for aging of the lower face during past five years. The cervicofacial lift remains the “gold standard” in some cases (three cases). Genioplasty was indicated in five patients to improve facial contour. Preimplantary surgery was needed in eight patients when edentation is ancient. Alternatives to these surgical procedures are sometimes necessary (time±long recovery, morbidity, the financial implications, etc.) and are done in most cases even after surgery. As volume restoration methods we used: the lipofilling (five cases), hyaluronic acid fillers (42 patients). Regeneration procedures are up-to-date methods such as platelet-rich plasma injections (four cases), mesotherapy, etc. Botulinum toxin that are normally less indicated in the lower third of the face especially with the technique of mesobotox in jaws wrinkles were used in (25 cases).
Background: Patient comfort is an important priority in elective cosmetic treatments. Painful procedures such as fractional ablative resurfacing, tattoo removal, and microneedling with radiofrequency require effective anesthesia to allow for a pleasant patient experience. Study: This is a review of advanced anesthesia techniques for laser and related treatments. Results: For painful treatments, our center uses a combination of topical anesthesia, local anesthesia, and facial nerve blocks. Local anesthesia techniques include the use of mesotherapy multi-injectors to reduce the amount of medication and the time needed to achieve numbing. Conclusion: A combination of advanced anesthesia techniques for laser and related treatments can achieve rapid and effective numbing and improve patient experience.
Alopecia areata is a form of non-scarring alopecia that results from a hyperactive immune response of T cells against hair follicles. Many patients with visible hair loss experience psychological and emotional distress, as a result of their cosmetic disfigurement, and frequently seek treatment. However, existing treatment methods, such as corticosteroids, topical irritants, sensitizing agents, immunosuppressants, and psoralen plus ultraviolet light A, may result in various adverse effects and often lack efficacy. Laser and light treatments offer a safe and effective alternative. This review aims to provide clinicians with a comprehensive summary of laser and light-based modalities used for the treatment of alopecia areata. Currently, the excimer laser is the most widely studied device and has shown positive results thus far. However, the development of future randomized controlled clinical trials will help determine the appropriate treatment protocols necessary, in order to achieve superior clinical outcomes.
Background: To date, no studies compared curative effects of thermal lesions in deep and superficial dermal layers in the same patient (face-split study). Objective: To evaluate skin laxity effects of microneedle fractional radiofrequency induced thermal lesions in different dermal layers. Methods and Materials: 13 patients underwent three sessions of a randomized face-split microneedle fractional radiofrequency system (MFRS) treatment of deep dermal and superficial dermal layer. Skin laxity changes were evaluated objectively (digital images, 2 independent experts) and subjectively (patients' satisfaction numerical rating). Results: 12 of 13 subjects completed a course of 3 treatments and a 1-year follow-up. Improvement of nasolabial folds in deep dermal approach was significantly better than that in superficial approach at three months (P=.0002) and 12 months (P=.0057) follow-up. Effects on infraorbital rhytides were only slightly better (P=.3531). Conclusion: MFRS is an effective method to improve skin laxity. Thermal lesion approach seems to provide better outcomes when applied to deep dermal layers. It is necessary to consider the skin thickness of different facial regions when choosing the treatment depth.
RECORD 64
Cosmeceutical product consisting of biomimetic peptides: Antiaging effects in vivo and in vitro
Gazitaeva Z.I., Drobintseva A.O., Chung Y., Polyakova V.O., Kvetnoy I.M.
Clinical, Cosmetic and Investigational Dermatology (2017) 10 (11-16). Date of Publication: 7 Jan 2017

Background: Biomimetic peptides are synthetic compounds that are identical to amino acid sequence synthesized by an organism and can interact with growth factor receptors and provide antiaging clinical effects. Purpose: The purpose of this study was to investigate the effects of biomimetic peptides on the repair processes in the dermis using a model of cell cultures and in vivo. Patients and methods: Five female volunteers were subjected to the injection of biomimetic peptides 1 month prior to the abdominoplasty procedure. Cell culture, immunocytochemistry, and confocal microscopy methods were used in this study. Results: Biomimetic peptides regulate the synthesis of proteins Ki-67, type I procollagen, AP-1, and SIRT6 in cell cultures of human fibroblasts. They contribute to the activation of regeneration processes and initiation of mechanisms that prevent aging. Intradermal administration of complex of biomimetic peptides produces a more dense arrangement of collagen fibers in the dermis and increased size of the fibers after 2 weeks. The complex of biomimetic peptides was effective in the in vivo experiments, where an increase in the proliferative and synthetic activities of fibroblasts was observed. Conclusion: This investigation showed that the studied peptides have biological effects, testifying the stimulation of reparative processes in the skin under their control.
Mesotherapy refers to multiple injections of small quantity of the drug over a large area. The mesoguns available are expensive and the motor-driven models tend to waste the expensive material to be injected since the plunger stops after injecting without recoil. We searched for a less expensive device which would inject like the mesogun and still not waste the solution. On searching the web, we identified a spring-loaded syringe. We describe the assembly and use of this inexpensive syringe for delivering multiple injections with minimal wastage.
Because of low injection volume, the recently marketed injectable solution of diclofenac in complex with β-cyclodextrin (Akis®, IBSA Farmaceutici Italia) is an ideal candidate for mesotherapy applications. In this study, we investigated the solubility of Akis, 25 and 50 mg/kg, in combination with various local anaesthetics (lidocaine, mepivacaine, bupivacaine, levobupivacaine, and ropivacaine) at different concentrations in aqueous vehicles (normal saline, sterile water, or bicarbonate). Final injection mixtures were classified as limpid, turbid, or milky at visual analysis under standardized conditions. We found that (i) the use of sterile water for injections or normal saline as vehicles to dilute Akis in combination with whatever local anaesthetic normally results in milky solutions and therefore is not recommended; (ii) using bicarbonate, optimal solubility was obtained combining Akis with lidocaine, both 1 and 2%, or mepivacaine, both 1 and 2%, whereas solutions were turbid in combination with bupivacaine, levobupivacaine, or ropivacaine. Thus, we recommend that Akis is used in combination with lidocaine or mepivacaine in a bicarbonate vehicle.
Intralesional drug therapy in dermatology
Deshmukh N., Belgaumkar V., Mhaske C., Doshi B.
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The diagnosis and treatment of peripheral lymphedema: 2016 consensus document of the International Society of Lymphology


This International Society of Lymphology (ISL) Consensus Document is the latest revision of the 1995 Document for the evaluation and management of peripheral lymphedema [1]. It is based upon modifications: [A] suggested and published following the 1997 XVI International Congress of Lymphology (ICL) in Madrid, Spain [2], discussed at the 1999 XVII ICL in Chennai, India [3], and considered/confirmed at the 2000 (ISL) Executive Committee meeting in Hinterzarten, Germany [4]; [B] derived from integration of discussions and written comments obtained during and following the 2001 XVIII ICL in Genoa, Italy as modified at the 2003 ISL Executive Committee meeting in Cordoba, Argentina [5]; [C] suggested from comments, criticisms, and rebuttals as published in the December 2004 issue of Lymphology [6]; [D] discussed in both the 2005 XX ICL in Salvador, Brazil and the 2007 XXI ICL in Shanghai, China and modified at the 2008 Executive Committee meeting in Naples, Italy [7, 8]; [E] modified from discussions and written comments from the 2009 XXII ICL in Sydney, Australia, the 2011 XXIII ICL in Malmö, Sweden, the 2012 Executive Committee Meetings [9], and [F] from discussions at the 2013 XXIV ICL in Rome, Italy, and the 2015 XXV ICL in San Francisco, USA, as well as multiple written comments and feedback from Executive Committee and other ISL members during the 2016 drafting. The document attempts to amalgamate the broad spectrum of protocols and practices advocated worldwide for the diagnosis and treatment of peripheral lymphedema into a coordinated proclamation representing a “Consensus” of the international community based on various levels of evidence. The document is not meant to override individual clinical considerations for complex patients nor to stifle progress. It is also not meant to be a legal formulation from which variations define medical malpractice. The Society understands that in some clinics the method of treatment derives from national standards while in others access to medical equipment and supplies is limited; therefore the suggested treatments might be impractical. Adaptability and inclusiveness does come at the price that members can rightly be critical of what they see as vagueness or imprecision in definitions, qualifiers in the choice of words (e.g., the use of “may… perhaps… unclear”, etc.) and mentions (albeit without endorsement) of treatment options supported by limited hard data. Most members are frustrated by the reality that NO treatment method has really undergone a satisfactory meta-analysis (let alone rigorous, randomized, stratified, long-term, controlled study). With this understanding, the absence of definitive answers and optimally conducted clinical trials, and with emerging technologies and new approaches and discoveries on the horizon, some degree of uncertainty, ambiguity, and flexibility along with dissatisfaction with current lymphedema evaluation and management is appropriate and to be expected. We continue to struggle to keep the document concise while balancing the need for depth and details. With these considerations in mind, we believe that this 2016 version presents a Consensus that embraces the entire ISL membership, rises above national standards, identifies and stimulates promising areas for future research, and represents the best judgment of the ISL membership on how to approach patients with peripheral lymphedema in the light of currently available evidence. Therefore, the document has been, and should continue to be, challenged and debated in the pages of Lymphology (e.g., as Letters to the Editor) and ideally will remain a continued focal point for robust discussion at local, national and international conferences in lymphology and related disciplines. We further anticipate as experience evolves and new ideas and technologies emerge that this “living document” will undergo further periodic revision and refinement as the practice and conceptual foundations of
Studying the causes of hair loss and improving the methods of alopecia therapy are among the most important trends in dermatology. The interest is determined by the fact that pathogenic mechanisms of hair loss are poorly studied, current methods of therapy are not always effective enough, and the existing theories and assumptions do not reveal fully the mechanisms of hair loss. Undoubtedly, the development of new pharmacological means and methods of alopecia therapy is possible only owing to better understanding of hair loss patterns at the pathophysiological level. The purpose of this study was to investigate the role of the VEGF, KGF, EGF, TGF-β1 growth factors in the development of androgenic alopecia in men and women. This study demonstrates gender differences in the pathogenesis of androgenic alopecia. The obtained data give reason to assume the influence of other factors on the development of androgenic alopecia in men.
What to do for perioral wrinkles?
Perioral bölge kırışıklıklarında ne yapmalı?
Serdar Z.A.
Turkderm Deri Hastalıkları ve Frengi Arşivi (2017) 51:1 (28-30). Date of Publication: 2017
BACKGROUND: Thermal burns are the leading cause of trauma worldwide. Currently, no consensus on optimal treatment of deep partial-thickness (second-degree) burns has emerged, as reflected by the wide variability in available wound-care materials. The relative efficacies of products used for treatment of partial-thickness thermal burns remain unclear. Mesotherapy features intradermal administration of various agents, depending on burn location. In the present experimental study, we explored the efficacy of mesotherapy used to treat partial-thickness thermal burns in 50 male Wistar rats divided into five groups of equal number. No procedure was performed after infliction of thermal burns in control group (Group 1). Mesotherapy was applied with physiological saline in sham group (Group 2), glutathione, taurine, and L-carnitine were separately applied in Group 3, Group 4, and Group 5, respectively.

MATERIALS AND METHODS: Mesotherapeutic agents were injected intradermally into the reticular layer of the dermis using the point technique. The first course of mesotherapy was given within the first 2 h after infliction of thermal burns, and therapy was continued to day 10. On day 22, unhealed thermal burn areas were measured prior to sacrifice, and biopsies covering the total areas of burns were performed to allow of pathological evaluation.

RESULTS: Group 3 (the glutathione group) showed the best extent of healing, followed by Group 4 (the taurine group) and Group 5 (the L-carnitine group). The healed thermal burn areas in these groups were significantly greater than those in the control and sham groups (P = 0.001). All of healing, acute and chronic inflammation, the amount of granulation tissue, the level of fibroblast maturation, the amount of collagen, the extent of re-epithelization and neovascularization, and ulcer depth were scored upon pathological examination of tissue cross-sections. The best outcomes were evident in the glutathione group, with statistical significance. Although wound healing in the L-carnitine and taurine groups was better than in the control and sham groups, the differences were not statistically significant.

CONCLUSION: Thus, glutathione mesotherapy was effective when used to treat partial-thickness thermal burns and may be a useful treatment option for various human burns.
Noninvasive procedures targeting the elimination of unwanted adipose tissues have recently been developed. Injection adipolysis is the term for the injection of cytotoxic substances into these tissues, with the intent of cosmetic improvement by volume reduction. Initial attempts in the field utilized intravenous preparations of sodium deoxycholate and soy-derived phosphatidylcholine, approved for the intravenous treatment of fat emboli and dyslipidemias in countries outside the United States. It was initially purported that the active ingredient in these injections was phosphatidylcholine. Subsequent research discovered that injections of sodium deoxycholate alone were capable of inducing cellular lysis in vitro. These compounds also demonstrated an affinity for adipose tissue, sparing the overlying dermis and epidermis. The United States Food and Drug Administration (FDA) recently approved a formulation of sodium deoxycholate 10mg/mL for subcutaneous injection with the indication of aesthetic improvement of excess submental fat. It has shown moderate efficacy with appropriate patient selection and good patient satisfaction. However, previous research leading to the development of this drug proposed that including phosphatidylcholine to a more appealing cosmetic result, with decreased severity of injection-site reactions. Future drugs in the field of injection adipolysis may attempt to combine these ingredients for improved cosmesis and tolerability.
There is an increasing interest in skin rejuvenation using hyaluronic acid (HA) fillers beyond the improvement of deep wrinkles and volume deficiencies, which have been primary research foci in the past. We conducted a pilot study using a sample of six middle-aged male subjects. Using an automatic intradermal injector with 0.020 mL of material contained in each injection point with a total of 100 points, 2 mL of non-cross-HA filler was injected into the entire face at every treatment session. We administered injections of HA for a total of three sessions per subject at 2-week intervals and evaluated the results using a corneometer, TEWL, cutometer, measures of patient satisfaction, and the global aesthetic improvement scale (GAIS). Corneometer values increased steadily at each measurement, while the average value of TEWL increased in comparison with baseline after each application of the procedure. However, values returned to readings similar to those at 4 weeks after complete termination of the procedures. Cutometer values differed between the baseline and after procedures. All patients were assessed as “very much improved” or “much improved” according to GAIS, and all were pleased with the outcomes of treatment in terms of the enhancement of moisture, elasticity, and brightness.
Why some of the dermatologists choose to avoid carrying out minimally invasive cosmetic procedures?
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Background: Some dermatologists choose to avoid carrying out cosmetic dermatology procedures. The aim of this study is to reveal the knowledge and daily outpatient clinic applications of dermatologists in Turkey, and their problems concerning minimally invasive cosmetic procedures (MICPs). Materials and methods: This study was designed as a descriptive cross-sectional study. Between December 2014 and July 2015, a questionnaire was sent to dermatologists by e-mail. Results: Of the 318 participant dermatologists, 233 (73.3%) were female. It was determined that 63.8% of the participants had sufficient knowledge on MICP (very good, good, and medium) while 36.2% had insufficient knowledge (little, very little, and none). About 19.9% of the patients required MICP during outpatient clinic service. The 120 dermatologists who do not apply MICP gave the following reasons: not having adequate training (50%), MICP not being profitable (28.3), not having enough time (25%), being worried about side effects and complications (14.2%), and legal problems (9.2%). Conclusion: It was observed that many dermatologists are interested in cosmetic dermatology, received their training on the subject through courses, have sufficient knowledge, and apply these procedures. However, it was also found out that some dermatologists do not apply MICP due to inadequate training, time, and physical constraints.
Introduction: In recent years there has been increasing interest in non-surgical cosmetic procedures. Mesotherapy is presented as an alternative procedure to surgery, which involves intradermal injection of small quantities of various substances that stimulate dermis and subcutaneous tissue. Despite the risk associated with these procedures is theoretically low, have been reported multiple cases of skin and soft tissue infections by rapidly growing non-tuberculous mycobacteria (NTM) secondary to these treatments. Objective: We report a case of cutaneous Mycobacterium chelonae infection associated with mesotherapy, highlighting the contribution of the clinical microbiology laboratory. Case Report: A 37-year-old woman presented with subcutaneous abscesses with abdominal location. The lesions had developed 3 weeks after mesotherapy injections for the purpose of cellulite reduction. Clinical samples for microbiological examination (direct and cultural exam) were obtained by needle aspiration. After 96 hours of incubation occurred the growth of small rough colonies in the blood agar plate, that were Gram positive bacilli and alcohol acid resistant when stained by Ziehl-Neelsen. The search for clinical information determined the cultural exam in Lowenstein Jensen, with growth of colonies suggestive of micobacteria in a week of incubation, identified as Mycobacteria chelonae by reverse hybridization PCR. Conclusion: The growing demand for aesthetic treatments associated with poor regulation of clinics and products used in these alternative therapies caused an increase in infectious complications with NTM. The complexity of the diagnosis and treatment requires close communication between the clinician and the laboratory in order to guide the laboratory research on the etiological agent involved.
A template for estimating doses of deoxycholic acid for submental fat fullness
Brackeen A.
To determine whether platelet-rich fibrin lysate (PRF-L) could restore the function of chronically ultraviolet-A (UVA)-irradiated human dermal fibroblasts (HDFs), we isolated and sub-cultured HDFs from six different human foreskins. HDFs were divided into two groups: those that received chronic UVA irradiation (total dosages of 10 J cm(-2)) and those that were not irradiated. We compared the proliferation rates, collagen deposition, and migration rates between the groups and between chronically UVA-irradiated HDFs in control and PRF-L-treated media. Our experiment showed that chronic UVA irradiation significantly decreased (p<0.05) the proliferation rates, migration rates, and collagen deposition of HDFs, compared to controls. Compared to control media, chronically UVA-irradiated HDFs in 50% PRF-L had significantly increased proliferation rates, migration rates, and collagen deposition (p<0.05), and the migration rates and collagen deposition of chronically UVA-irradiated HDFs in 50% PRF-L were equal to those of normal fibroblasts. Based on this experiment, we concluded that PRF-L is a good candidate material for treating UVA-induced photoaging of skin, although the best method for its clinical application remains to be determined.
Treatment of striae distensae with needling therapy versus microdermabrasion with sonophoresis

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Striae distensae (SD) is a challenging cosmetic problem for which various treatment modalities have been applied. Our aim was to evaluate the efficacy and tolerability of needling therapy versus microdermabrasion with sonophoresis in the treatment of SD. Materials and methods: Forty female patients with SD (mean duration 2.98 ± 2.66) were enrolled in this study. Patients were assigned to two groups, Group 1 treated with needling therapy and Group 2 treated by microdermabrasion with sonophoresis. In Group 1, three sessions of needling therapy were performed for each patient with 4-week interval between the sessions, while in Group 2, ten sessions of combined microdermabrasion and sonophoresis were performed for each patient. Skin biopsies were taken from the most atrophic site stained with hematoxylin and eosin stain and Masson trichrome stains to study the histopathological changes and efficacy of treatment, respectively. Results: There was a significant clinical improvement in SD in Group 1 compared with Group 2. Amount of collagen, number of fibroblasts, and epidermal thickness increased in the dermis at the end of treatment sessions (90% in Group 1 compared to 50% in Group 2). Conclusion: Needling therapy is an easy, safe, and economic method and considered as a suitable modality in management of striae.
Mesotherapy is a procedure in which a mixture of different compounds is injected into the dermis or subcutaneous tissue, for medical or cosmetic indications such as pain relief, collagen remodelling and lipolysis. Agents injected during mesotherapy for skin rejuvenation include hyaluronic acid, vitamins, minerals and amino acids. Although it has gained popularity, there are no adequate clinical trials evaluating the efficacy of mesotherapy for aesthetic indications; no standardized ingredients or dosages for the compounds used; and little knowledge about the pharmacodynamics of the products when injected into the skin. There have been various reported complications but only one report of granuloma annulare (GA) on the abdomen secondary to mesotherapy for lipolysis. A 66-year-old woman presented to our department with bilateral facial lumps 5 months after mesotherapy performed by a nurse practitioner at a beauty salon. Treatment with oral prednisolone, antibiotics, hyaluronidase and ablative laser by the practitioner provided no benefit. On examination there were monomorphous dermal papules in a grid-like pattern on her cheeks bilaterally and a linear arrangement on the lower cheeks and neck, and macular scars and a patch of macular erythema on her left cheek. Histology of the papules from her face and neck showed numerous focally confluent necrobiotic palisading granulomata with minor mucin deposition and basophilic material consistent with filler. Special stains for microorganisms were negative, and examination under polarized light was negative. Histopathological findings showed giant-cell granuloma suggestive of GA. She had treatment with triamcinolone 10 mg mL-1 applied to the lesions; scar excision and shave excision of lesions on her cheeks and temples by a plastic surgeon; and pulsed-dye laser to the macular erythema, with significant benefit. Mesotherapy is performed by a variety of practitioners including beauticians, nurses and doctors. Complications can be long lasting, and vary depending on the compounds injected. Allergic reactions, vagal syndromes, lipothymia and infections (HIV, hepatitis) are some of the systemic reactions. Prolonged skin reactions, including erythema, oedema, ulceration and persistent drainage were reported in a case series. Atypical mycobacterial infections have been well reported. Adverse reactions from different cocktail mixtures include urticarial pigmentosa, urticaria, systemic lupus erythematosus, koebnerization of psoriasis, panniculitis, subcutaneous fat necrosis, ulceration and scarring. We discuss a new complication of mesotherapy and its management options.
Mesotherapy, microneedling, and chemical peels are minimally invasive techniques used to combat facial aging. Chemical peeling is one of the oldest methods of facial rejuvenation. By using different chemicals in various combinations, strengths, and application techniques, plastic surgeons can tailor a patient's treatment for optimal, safe, and consistent results. Mesotherapy and microneedling have emerged in the plastic surgery literature with increasingly complex indications. Both techniques have increased in popularity although research into efficacy and long-term results is lagging. With a thorough understanding of patients and the modalities available, plastic surgeons can use the appropriate minimally invasive technique to provide patients with desired skin changes.
The proceedings contain 428 papers. The topics discussed include: liquid topical acrylate skin adhesive for treatment of a bleeding infantile haemangioma; carbon dioxide laser ablation of dermatosis papulosa nigra: high patient satisfaction and few complications in patients with pigmented skin; granuloma annulare-like response to mesotherapy; a study of combined use of microneedling and platelet-rich plasma on acne scars; topical monobenzylether of hydroquinone for depigmentation of extensive vitiligo: a retrospective cohort study of 53 cases; erbium: yttrium aluminium garnet laser treatment of multiple facial trichoepitheliomata in a patient with type VI skin; spiny keratoderma of the palms treated with erbium: yttrium aluminum garnet ablation; and delayed granulomatous reaction to dermal fillers treated with intralesional triamcinolone and oral minocycline.
Wide variations in the types of pain and response to analgesic pharmacotherapy mean that a variety of treatment strategies are needed. One approach is mesotherapy (intradermal therapy). This consists of microinjections into the skin and is ideally suited to the management of localized pain. Advantages include increasing the duration of drug activity, reduced risk of adverse events and interactions, and possible synergy with other therapies. Mesotherapy provides general practitioners with another tool for the treatment of local pain. However, it is important to provide patients with full details of the pros and cons of this approach and obtain informed patient consent.
There is a growing number of cosmetic medical treatments in the Balkan region. Yet, this trend has not been closely observed in terms of the correlation between procedure characteristics and clients’ sociocultural and psychological characteristics. The aim of this cross-sectional/retrospective research is to establish the correlation of types of cosmetic procedures with basic sociodemographic characteristics of clients in Serbia. Each of 144 study subjects underwent a cosmetic treatment (320 in total) within the first three months of 2014, while the study was being conducted. The sample included 5 male and 139 female subjects, with the age range of 17–71 (38.87±10.722). Peaks of interventions have been detected in subjects aged 31-35 and 36-40; more frequently those were individuals with a higher level of education and their motive most commonly was of aesthetic nature. The majority of the subjects (44.44%) underwent only one intervention, while the average number of interventions per subject within the period of three months was 2.21±1.40. Face interventions were considerably higher in number than others, with a rising trend with age. The number of procedures in the area of the abdomen, breasts and thighs, rose with the increase of a body mass index. The most popular treatments included removal of stretch marks and fillers, mesotherapy and botulinum toxin. Due to ever-growing sociocultural pressure and a modern concept of life, women often decide on cosmetic therapy at the first sign of ageing and hormonal changes, with a downward age trend especially with respect to minimally invasive procedures, as well as the most visible body parts, the face in the first place.
Background: There has been no research about the exact mechanism of transdermal drug delivery during mesotherapy. Objective: We aimed to evaluate whether the commercial mesogun can be an appropriate technique for a transdermal drug delivery. Materials and Methods: We injected blue ink into the polyurethane foam or pig skin with three types of mesotherapy using a commercial mesogun, or local made intradermal injector, or a manual injection of syringe. To assess the internal pressure of the cylinder and drug delivery time, we designed the evaluation setup using a needle tip pressure transducer. Result: All types of injectors induced adequate penetration of blue ink into the polyurethane foam without backflow. In the pig skin, blue ink leaked out rapidly with the backward movement of the needle in the commercial mesogun in contrast to the local made injector or the manual injection of syringe. When the time for backward movement of the syringe approaches 1000 ms, the cylinder pressure of the syringe is saturated at around 25 mmHg which can be translated into the dermal pressure of the pig skin. Conclusion: There should be sufficient time between the insertion and withdrawal of the needle of injector for the adequate transdermal drug delivery and it must be considered for mesotherapy.
Using automated microneedling with platelet rich plasma for treating cicatricial alopecia, recalcitrant alopecia areata and traction alopecia, case report

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Introduction: Alopecia due to different causes especially traction and cicatricial are recalcitrant to treatment. Also scalp alopecia areata may be resistant to treatment when affecting large areas and ignored by patients for months. Microneedling is an effective methods for treating telogen effluvium whether alone or when combined with platelet rich plasma or mesotherapy. It is thought to act by induction of neovascularization. Aim of the study: Creation of a new method for scalp hair follicles stimulation and regrowth in cases of cicatricial alopecia, traction alopecia and alopecia areata. Patients and methods: One case of cicatricial alopecia, another with traction alopecia and third with alopecia areata were treated by twenty sessions of automated microneedling combined with platelet rich plasma. Sessions were done every two weeks. Clinical improvement was done by a blind dermatologist and patient satisfactory scale at the end of sessions. Results: The three cases showed marked clinical improvement with variable degrees of patient satisfaction. Conclusion: Automated microneedling may provide a successful future procedure for treating cicatricial alopecia, traction alopecia and recalcitrant alopecia areata.
Glutathione is a low molecular weight thiol-tripeptide that plays a prominent role in maintaining intracellular redox balance. In addition to its remarkable antioxidant properties, the discovery of its antimelanogenic properties has led to its promotion as a skin-lightening agent. It is widely used for this indication in some ethnic populations. However, there is a dichotomy between evidence to support its efficacy and safety. The hype around its depigmentary properties may be a marketing gimmick of pharmaco-cosmeceutical companies. This review focuses on the various aspects of glutathione: its metabolism, mechanism of action and the scientific evidence to evaluate its efficacy as a systemic skin-lightening agent. Glutathione is present intracellularly in its reduced form and plays an important role in various physiological functions. Its skin-lightening effects result from direct as well as indirect inhibition of the tyrosinase enzyme and switching from eumelanin to phaeomelanin production. It is available in oral, parenteral and topical forms. Although the use of intravenous glutathione injections is popular, there is no evidence to prove its efficacy. In fact, the adverse effects caused by intravenous glutathione have led the Food and Drug Administration of Philippines to issue a public warning condemning its use for off-label indications such as skin lightening. Currently, there are three randomized controlled trials that support the skin-lightening effect and good safety profile of topical and oral glutathione. However, key questions such as the duration of treatment, longevity of skin-lightening effect and maintenance protocols remain unanswered. More randomized, double-blind, placebo-controlled trials with larger sample size, long-term follow-up and well-defined efficacy outcomes are warranted to establish the relevance of this molecule in disorders of hyperpigmentation and skin lightening.
A case of mesotherapy-induced panniculitis
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Cutaneous and Ocular Toxicology (2016) 35:2 (163-164). Date of Publication: 2 Apr 2016

Mesotherapy was first introduced in Europe for the treatment of localized pain. It is currently used mainly for aesthetical purposes and gradually getting widely used for body contouring, cellulite reduction, and skin rejuvenation. The reports concerning about mesotherapy is increasing in number in the literature. There are reported systemic and local side effects of mesotherapy. Panniculitis is a rare side effect of mesotherapy. In this article, we report a case of mesotherapy-induced panniculitis who responded to dapsone therapy.
Recently, the placenta mesotherapy has been widely used to treat menopause. Placenta contains amino acids, peptides, minerals, and estrogen. Here, we investigated the estrogen-like osteoprotective effects of glycine (a main ingredient of placenta) in in vitro and in vivo models of menopause. We assessed the effect of glycine on MG-63 osteoblast cell line, MCF-7 estrogen-dependent cell line, and ovariectomized (OVX) mice. Glycine significantly increased the MG-63 cell proliferation in a dose-dependent manner. Activity of alkaline phosphatase (ALP) and phosphorylation of extracellular-signal-regulated kinase were increased by glycine in MG-63 cells. Glycine also increased the BrdU-incorporation and Ki-67 mRNA expression in MCF-7 cells. Glycine induced the up-regulation of estrogen receptor-β mRNA expression and estrogen-response element-luciferase activity in MG-63 and MCF-7 cells. In OVX mice, glycine was administered orally at a daily dose of 10 mg/kg per day for 8 weeks. Glycine resulted in the greatest decrease in weight gain caused by ovariectomy. Meanwhile, vaginal weight reduced by ovariectomy was increased by glycine. Glycine significantly increased the ALP activity in OVX mice. MicroCT-analysis showed that glycine significantly enhanced bone mineral density, trabecular number, and connectivity density in OVX mice. Moreover, glycine significantly increased the serum 17β-estradiol levels reduced by ovariectomy. Glycine has an estrogen-like osteoprotective effect in menopause models. Therefore, we suggest that glycine may be useful for the treatment of menopause.
In vitro study of RRS HA injectable mesotherapy/biorevitalization product on human skin fibroblasts and its clinical utilization

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Clinical, Cosmetic and Investigational Dermatology (2016) 9 (41-53). Date of Publication: 23 Feb 2016

Mesotherapy/biorevitalization with hyaluronic acid (HA) is a treatment approach currently used for skin rejuvenation. Various products with a wide range of polycomponent formulations are available on the market. Most of these formulations contain noncross-linked HA in combination with a biorevitalization cocktail, formed by various amounts of vitamins, minerals, amino acids, nucleotides, coenzymes, and antioxidants. Although ingredients are very similar among the different products, in vitro and clinical effects may vary substantially. There is a real need for better characterization of these products in terms of their action on human skin or in vitro skin models. In this study, we analyzed the effect of the RRS(®) (Repairs, Refills, Stimulates) HA injectable medical device on human skin fibroblasts in vitro. Skin fibroblast viability and its capacity to induce the production of key extracellular matrix were evaluated in the presence of different concentrations of RRS HA injectable. Viability was evaluated through colorimetric MTT (3-[4,5-dimethylthiazol-2-yl]-2,5 diphenyl tetrazolium bromide) assay, and key extracellular matrix genes, type I collagen and elastin, were quantified by quantitative polymerase chain reaction. Results demonstrated that RRS HA injectable could promote human skin fibroblast viability (+15%) and increase fibroblast gene expression of type I collagen and elastin by 9.7-fold and 14-fold in vitro, respectively. These results demonstrate that mesotherapy/biorevitalization products can, at least in vitro, effectively modulate human skin fibroblasts.
Results of study aimed to use modern injection-free mesotherapy with application of herbal set "TEAGRIP" in the treatment of experimental periodontitis model, have been presented. For this purpose 55 white rabbits (breeds of Chinchilla) have been used. Periodontitis was modeled by the method of A Volojin in modification of S.A Mamedova. Privilege of the usage of suggested complex was proved by morphological researches. Results have shown that evaluated influence of photon and ultrasonic (with application of herbal set "TEAGRIP") on damaged gym is very positive. In the end of study the latter is firstly characterized with recovery of mucous membrane of gym, little difference in perivascular mononuclear infiltrate and exocytosis of I and II group animals.
Background Patterned hair loss (PHL) is a distressing common problem. It is associated with progressive reduction in hair density and hair fiber thickness, affecting mainly the frontovertical regions of the scalp. The available lines of treatment are not uniformly effective. Platelet-rich plasma and microneedling have been introduced recently to the armamentarium of treatment. Their comparative efficacy to topical minoxidil has not been evaluated. Objective To assess the efficacy of combined PRP mesotherapy and microneedling in the treatment of PHL compared with 5% topical minoxidil. Patients and methods Forty patients with clinically diagnosed PHL were recruited after exclusion of other causes of hair loss. They were divided into two equal age-matched, sex-matched, and severity-matched groups. The first group received 2ml of 5% topical minoxidil, whereas the other group received monthly sessions of combined platelet-rich plasma mesotherapy and scalp microneedling. The effect of the treatment was evaluated by a blinded investigator who graded the patient's alopecia and performed a nonvellus hair count in a target area after 12 and 28 weeks of treatment. Patients' satisfaction with treatment, their reported change in hair shedding rate, and side effects were recorded. Results Both treatment modalities were comparably effective in improving hair density and alopecia grade. Patients' satisfaction was comparable with both modalities. Both lines were well tolerated; however, the onset of action of minoxidil was significantly quicker. Conclusion Topical minoxidil remains the first-line of treatment for patients with PHL, given its efficacy, tolerability, and relatively low cost. Platelet-rich plasma with microneedling could be considered an effective second-line therapy for intolerant or unfit patients for minoxidil.
Subcutaneous injection lipolysis using phosphatidylcholine (PC) and sodium deoxycholate (SD) solution has been used in clinical practice with toxicity concerns of SD, a detergent emulsifier. Liposomal formulation of PC from local Indonesian soybean without SD was thought to be a safer alternative for this purpose. The aim of this study was to develop injectable liposome formulations from soybean phosphatidylcholine (SPC) extract from Argomulyo variety soy. In addition, this study was aimed to compare the physical characteristics between the liposomes of SPC extract and the liposomes of purified SPC. SPC extract was obtained by extraction-fractionation process from soybean powder. Liposome was prepared using thin film hydration (hand-shaking) method followed by a stepwise extrusion process through decreasing pore size extruder, i.e. 0.45 \( \mu \text{m} \), 0.20 \( \mu \text{m} \), and 0.10 \( \mu \text{m} \). Liposomes were then characterized physically and microscopically. Laser scanning confocal microscopy (LSCM) with quinacrine dye and transmission electron microscopy (TEM) without quinacrine dye was used for morphological confirmation. The median size of liposomes from SPC extract containing 26.2\% of PC was 48.9 nm with polydispersity index of 0.35. The liposomes were anionic with mean zeta potential of -17.25 mV. Liposomes from purified SPC was larger with median size of 68.3 nm and polydispersity index of 0.16; the liposomes were cationic with mean zeta potential of 58.23 mV. Confirmation using TEM showed spherical structures covered with a single layer both from purified SPC and SPC extract. Liposomes of SPC extract could satisfyingly be produced using local, Argomulyo variety soy. The liposomes were uniformly small, nanoparticle-sized, unilamellar, and negatively charged. These characteristics are suitable for subcutaneous injection to be used as lipolytic agent to replace the commercial PC plus SD solution.
The concept of using a patient’s own blood or components thereof (autologous), to enhance the physiological process of healing has been in place for many years. Autologous platelet-rich plasma (PRP) has been used for both soft tissue and bone healing and rejuvenation. PRP has also been used in orthopaedics for bone, tendon and muscle injuries, dentistry for dental implants, dermatology for wound healing, and in pathological conditions such as alopecia areata. However, more recently, it has been used in the fast-growing field of aesthetic and anti-ageing medicine for skin rejuvenation. PRP seems like a logical, safe, relatively, cheap and easy procedure, but is this the case? Although safety and improved short-term outcomes for orthopaedic indications have been demonstrated in a few reviews, long-term improvement has not been demonstrated. Randomised controlled trials in dermatology and aesthetic indications are sparse, but show promise for alopecia areata and skin rejuvenation.
The diagnosis and treatment of peripheral lymphedema: 2016 consensus document of the International Society of Lymphology


This International Society of Lymphology (ISL) Consensus Document is the latest revision of the 1995 Document for the evaluation and management of peripheral lymphedema (1). It is based upon modifications: [A] suggested and published following the 1997 XVI International Congress of Lymphology (ICL) in Madrid, Spain (2), discussed at the 1999 XVII ICL in Chennai, India (3), and considered/confirmed at the 2000 (ISL) Executive Committee meeting in Hinterzarten, Germany (4); [B] derived from integration of discussions and written comments obtained during and following the 2001 XVIII ICL in Genoa, Italy as modified at the 2003 ISL Executive Committee meeting in Cordoba, Argentina (5); [C] suggested from comments, criticisms, and rebuttals as published in the December 2004 issue of Lymphology (6); [D] discussed in both the 2005 XX ICL in Salvador, Brazil and the 2007 XXI ICL in Shanghai, China and modified at the 2008 Executive Committee meeting in Naples, Italy (7,8);[E] modified from discussions and written comments from the 2009 XXII ICL in Sydney, Australia, the 2011 XXIII ICL in Malmö, Sweden, the 2012 Executive Committee Meetings (9), and [F] from discussions at the 2013 XXIV ICL in Rome, Italy, and the 2015 XXV ICL in San Francisco, USA, as well as multiple written comments and feedback from Executive Committee and other ISL members during the 2016 drafting. The document attempts to amalgamate the broad spectrum of protocols and practices advocated worldwide for the diagnosis and treatment of peripheral lymphedema into a coordinated proclamation representing a "Consensus" of the international community based on various levels of evidence. The document is not meant to override individual clinical considerations for complex patients nor to stifle progress. It is also not meant to be a legal formulation from which variations define medical malpractice. The Society understands that in some clinics the method of treatment derives from national standards while in others access to medical equipment and supplies is limited; therefore the suggested treatments might be impractical. Adaptability and inclusiveness does come at the price that members can rightly be critical of what they see as vagueness or imprecision in definitions, qualifiers in the choice of words (e.g., the use of "may… perhaps… unclear", etc.) and mentions (albeit without endorsement) of treatment options supported by limited hard data. Most members are frustrated by the reality that NO treatment method has really undergone a satisfactory meta-analysis (let alone rigorous, randomized, stratified, long-term, controlled study). With this understanding, the absence of definitive answers and optimally conducted clinical trials, and with emerging technologies and new approaches and discoveries on the horizon, some degree of uncertainty, ambiguity, and flexibility along with dissatisfaction with current lymphedema evaluation and management is appropriate and to be expected. We continue to struggle to keep the document concise while balancing the need for depth and details. With these considerations in mind, we believe that this 2016 version presents a Consensus that embraces the entire ISL membership, rises above national standards, identifies and stimulates promising areas for future research, and represents the best judgment of the ISL membership on how to approach patients with peripheral lymphedema in the light of currently available evidence. Therefore, the document has been, and should continue to be, challenged and debated in the pages of Lymphology (e.g., as Letters to the Editor) and ideally will remain a continued focal point for robust discussion at local, national and international conferences in lymphology and related disciplines. We further anticipate as experience evolves and new ideas and technologies emerge that this "living document" will undergo further periodic revision and refinement as the practice and conceptual foundations of
medicine and specifically lymphology change and advance.

RECORD 96

The effectiveness of acupuncture on pain, physical function and health-related quality of life in patients with rheumatoid arthritis: A systematic review protocol
Seca S., Miranda D., Cardoso D., Greten H., Cabrita A., Rodrigues M.A.
JBI Database of Systematic Reviews and Implementation Reports (2016) 14:5 (18-26). Date of Publication: 2016

Review question/objective: The objective of this review is to identify and synthesize the best available evidence on the effectiveness of acupuncture on pain, physical function and health-related quality of life in patients with rheumatoid arthritis. More specifically, the review questions are: • Is acupuncture effective in improving health-related quality of life in patients with RA? • Is acupuncture effective in relieving pain in patients with RA? • Is acupuncture effective in improving physical function in patients with RA?
Mesotherapy is an intradermal or subcutaneous injection of therapeutic agents to induce local effects, and was pioneered in Europe during the 1950s. For the past 2 decades, there has been significant interest in the use of mesotherapy for minimally invasive local fat contouring. Based on the theorized lipolytic effects of the agent phosphatidylcholine, initial attempts involved its injection into subcutaneous tissue. With further studies, however, it became apparent that the activity attributed to phosphatidylcholine mesotherapy was due to the adipolytic effects of deoxycholate, a detergent used to solubilize phosphatidylcholine. Since then, clinical trials have surfaced that demonstrate the efficacy of a proprietary formulation of deoxycholate for local fat contouring. Current trials on mesotherapy with salmeterol, a β-adrenergic agonist and lipolysis stimulator, are underway—with promising preliminary results as well.
Background: Pes anserine bursitis strongly affects quality of life in patients with osteoarthritis. Treatment includes nonsteroidal anti-inflammatory drugs (NSAIDs), physiotherapy, and injections of corticosteroid, with highly variable responses; recovery can take 10 days to 36 months. Mesotherapy is a minimally invasive technique consisting of subcutaneous injections of bioactive substances. The goal is to modulate the pharmacokinetics of the injected substance and prolong the effects at a local level. Objective: To evaluate the effects of mesotherapy with diclofenac for anserine bursitis associated with knee osteoarthritis. Methods: One hundred and seventeen patients with anserine bursitis associated with grade II Kellgren-Lawrence knee osteoarthritis, assessed by clinical, radiographic, and ultrasonographic examination, were evaluated and treated. They were randomly divided into two groups (A, mesotherapy; B, control). Group A completed nine sessions of mesotherapy with sodium diclofenac (25mg/1mL; Akis®, IBSA, Lugano, Switzerland), 1mL for each session, three times per week. Group B received 21 oral administrations of sodium diclofenac (50mg; Voltaren®, Novartis, Parsippany, NJ), once a day for 3 weeks. Primary outcome measures were pain intensity assessed by visual analogue scale (VAS), along with ability to perform activities of daily living, ability to participate in sports, level of pain, symptoms, and quality of life, as assessed by the Knee injury and Osteoarthritis Outcome Score. These measures were performed before and after the treatment period and at 30 and 90 days' follow up. Results: In both groups pain level decreased significantly after the treatment period. Ultrasonography showed a reduction of the hypoechoic area related to anserine bursitis only in group A. Conclusion: Administration of conventional NSAIDs (diclofenac) by mesotherapy is effective in managing anserine bursitis in knee osteoarthritis in the short term and mid-term. These observations could be of interest for efforts to reduce the adverse effects of oral administration of anti-inflammatory drugs.
The research reveals the impact of a belief in god and god's Providence on the happiness and quality of life of patients benefiting from aesthetic medicine treatments in Poland (country where over 90% of society declare to be deeply devout). The work also examines age and sex of the patients benefiting from beauty treatments (botulinum toxin, fillers, medical peels and needle mesotherapy), their quality of life and also the impact of various factors, including God and Divine Providence on their happiness. The research shows the analysis of factors influencing the successes or failures in the past year and presents the comparison of patients who have benefited from the aesthetic medicine treatments (cosmetic medicine) to the common average Polish citizens.
Open pores, particularly on the nose, are encountered as a common aesthetic complaint for which no effective medical or surgical therapy exists to date. Retinoids, chemical peels, dermabrasion and lasers are effective modalities for skin rejuvenation in Asian skin, but they only end up leaving these pinpoint depressions more prominent. The activity of the arrector pili muscle, controlling the size of pores according to seasonal variation and transepidermal water loss, can be a potential therapeutic target with the use of botulinum toxin. The aim of this study was to investigate the role of botulinum toxin as mesotherapy for the treatment of open nasal pores in Asian skin. Eight female and two male patients with enlarged nasal pores were recruited. After informed consent and careful visual assessment of the pores, nasal skin was thoroughly cleansed with a warm isopropyl alcohol solution, so as to augment the size of the openings. Botulinum toxin 100 U was diluted in 10 mL sterile normal saline to constitute the mesotherapy solution, which was injected intradermally by direct insertion into the pores. The depth of penetration was ascertained by the presence of extrusion of the solution from the adjacent pores, which are at the level of the superficial dermis. Outcome assessments included photography, global evaluation by investigators in a blind manner and patient assessment, each at 1 and 2 months. Treatment with botulinum toxin mesotherapy resulted in significant reduction in the size of nasal pores at 1 and 2 months after injection (P < 0.01, t-test). Eight patients (80%) reported that they were satisfied (50-75% improvement) with this treatment for open pores. The patients' self-assessments paralleled physicians' assessments. Three patients reported mild pain during the procedure, although no weakness of facial muscles was observed in any of the patients. In conclusion, botulinum toxin mesotherapy significantly tightens up open nasal pores with a high degree of patient satisfaction and no incidence of adverse effects in Asian skin. Comparative studies are warranted to explore this novel treatment modality, which hits at the 'right target', as opposed to other prevalent nonspecific modalities for this common condition.
RECORD 101

Implant exposure repaired combining the use of acellular dermal matrix and lateral thoracodorsal flap
Torresini G., Sozio A., Garreffa E., Brucchi M., Lucantoni R.
Background: Chronic low back pain is a common painful medical problem which has significant socioeconomic impact. Conventional pharmacological therapy usually associated with adverse effects. Mesotherapy is a minimally invasive technique done by subcutaneous injections of drugs, plant extracts, homeopathic agents, or other bioactive substance [1]. Objectives: To evaluate the value of mesotherapy, either by traditional drugs or by bee venom, as a therapeutic modality for management of chronic low back pain and compare it versus conventional systemic administration of nonsteroidal anti-inflammatory drugs and corticosteroids for patients with chronic low back pain.

Methods: A randomized controlled clinical trial with three parallel arms carried out at the Department of Rheumatology and Rehabilitation -Faculty of Medicine, Fayoum University in Egypt. The study was assessed and approved by the Faculty of Medicine Fayoum University Ethics Committee and has therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki. One hundred and twenty (120) patients (both sexes) aged 19-65 years and suffering from back pain since more than 3 months and reported a current pain intensity >60 on a 100mm visual analogic scale. Patients are randomly allocated to be divided to three main groups: Group I: 40 patients received drug therapy according to the following protocol: ketoprofen 150 mg/day orally for 12 days + methylprednisolone (MP) intramuscularly 40 mg/day for the first 4 days, then 20 mg/day for 3 days, then 20 mg/day at alternate days + esomeprazole 20 mg/die for 12 days. Group II: 40 patients received: 2% lidocaine (1 mL) + ketoprofen 100 mg (2 mL) + MP 40 mg (1 mL) at day 1 and 4, then 2% lidocaine (1 mL) + ketoprofen 100 mg (2 mL) + MP 20 mg (0.5 mL) day 7, 10, and 13, five repeated injections. Group III: 40 patients received (0.5 mL) diluted purified bee venom + 2% lidocaine (0.5 mL) twice weekly for three weeks. Pain intensity and functional disability were assessed at baseline (T0), at the end of treatment (T1), and 6 months thereafter (T2) by using visual analogic scale (VAS) and Roland-Morris disability questionnaire (RMDQ). Results: In the three groups, VAS and RMDQ values were significantly reduced at the end of drug treatment and after 6 months, in comparison with baseline. There was no significant difference in mean basal VAS and RMDQ scores between three groups, at the end of treatment (T1) but mean VAS and RMDQ scores level in group II showed significant decrease than G I and G III (p value <0.05). At T3, the mean VAS and RMDQ scores showed further decrease in GII in comparison with GI and GIII. Conclusions: Mesotherapy by using conventional drugs; NSAIDs and corticosteroids or by bee venom is an effective and well-tolerated method for managing low back pain in the short-term, and may be a valid alternative to conventional therapy in the treatment of low back pain with corticosteroids and NSAIDs. (Figure Presented).
Polycomponent mesotherapy formulations for the treatment of skin aging and improvement of skin quality

Prikhnenko S.

Clinical, Cosmetic and Investigational Dermatology (2015) 8 (151-157). Date of Publication: 7 Apr 2015

Skin aging can largely be attributed to dermal fibroblast dysfunction and a decrease in their biosynthetic activity. Regardless of the underlying causes, aging fibroblasts begin to produce elements of the extracellular matrix in amounts that are insufficient to maintain the youthful appearance of skin. The goal of mesopreparations is primarily to slow down and correct changes in skin due to aging. The rationale for developing complex polycomponent mesopreparations is based on the principle that aging skin needs to be supplied with the various substrates that are key to the adequate functioning of the fibroblast. The quintessential example of a polycomponent formulation – NCTF® (New Cellular Treatment Factor) – includes vitamins, minerals, amino acids, nucleotides, coenzymes and antioxidants, as well as hyaluronic acid, designed to help fibroblasts function more efficiently by providing a more optimal environment for biochemical processes and energy generation, as well as resisting the effects of oxidative stress. In vitro experiments suggest that there is a significant increase in the synthetic and prophylactic activity of fibroblasts with treated NCTF, and a significant increase in the ability of cells to resist oxidative stress. The current article looks at the rationale behind the development of polycomponent mesopreparations, using NCTF as an example.
Background: Transforming growth factor-β (TGF-β) is a major regulator of the synthesis of extracellular matrix (ECM) proteins in human skin as it stimulates fibroblast proliferation and collagen production. Perturbed TGF-β expression may play a key role in the pathogenesis of skin aging. Objectives: This study was conducted to objectively evaluate the effects of different modalities of non-invasive facial rejuvenation on TGF-β expression and to correlate its level with that of newly synthesized collagen. Methods: A total of 36 patients with Fitzpatrick skin types III and IV were divided into six groups. Each group of six patients was subjected to a different non-invasive modality for the treatment of skin aging, including radiofrequency (RF), Nd:YAG 1320-nm laser and Er:YAG 2940-nm laser mini-peels, intense pulsed light (IPL), mesotherapy injection, and electro-optical synergy (ELOS). Skin biopsies were obtained before treatment, at the end of treatment, and at three months post-treatment. In addition, biopsies were obtained from 30 control subjects. Levels of TGF-β were quantitatively evaluated using computerized image analysis of immunostained sections. Results: The expression of TGF-β was statistically significantly increased (P < 0.05) at the end of Nd:YAG 1320-nm and Er:YAG 2940-nm mini-peel treatments compared with baseline levels, and at three months post-treatment with RF and ELOS compared with pretreatment and end-of-treatment levels. However, no significant differences (P > 0.05) were observed in TGF-β level in response to IPL or mesotherapy treatments in comparison with baseline. The level of TGF-β was positively correlated (P < 0.05) to that of newly synthesized collagen at the end of Nd:YAG 1320-nm laser and Er:YAG 2940-nm laser mini-peels, as well as at three months after RF and ELOS treatments. Conclusions: Radiofrequency, ELOS, and Nd:YAG 1320-nm laser and Er:YAG 2940-nm laser mini-peels resulted in an increase in TGF-β expression, which may mediate the effects of these modalities in enhancing dermal collagen expression through the activation of fibroblasts and thereby reverse the photoaging of skin.
Antiaging, photoprotective, and brightening activity in biorevitalization: A new solution for aging skin
Sparavigna A., Tenconi B., De Ponti I.
Clinical, Cosmetic and Investigational Dermatology (2015) 8 (57-65). Date of Publication: 10 Feb 2015

Background: Age-related changes in the dermis can be considered the result of intrinsic factors and the consequence of environmental damage, mainly due to ultraviolet (UV) radiation from the sun (responsible for skin photoaging). The great versatility of the mesotherapy “biorevitalization” lies in the synergy between different biological effects of the active injected substances, which treats the skin in a more complete way. Several studies about biorevitalization efficacy showed good results. To date, however, objective results supported by instrumental evaluation are very sparse.

Purpose: This study evaluated the efficacy of an injectable solution (32 mg of hyaluronic acid plus an antiaging antioxidant complex consisting of vitamins, minerals, and amino acids) in the treatment of skin aging and photoaging.

Methods: A total of 64 female volunteers (37–60 years) underwent four sessions of biorevitalization at 3-week intervals, involving multiple injections in the face (external corner of the eye and cheek), neck, décolletage, and back of the hands. The esthetic result was assessed at baseline and after 6, 9, and 12 weeks, and was established through the use of clinical and instrumental evaluations, supported by photographic documentation. Additionally, a phototest was performed to assess the effect of biorevitalization treatment on UVB-induced erythema.

Results: Instrumental assessment showed, as early as after the second biorevitalizing treatment, the antiaging efficacy of the tested product; there was a clinical and statistically significant improvement of profilometric parameters, skin brightness, pigmentation, and deep skin hydration. The study product induced a statistically significant decrease of the visual score of the UVB-induced erythema compared with baseline, which was statistically different from placebo.

Conclusion: The study confirmed the well-known efficacy of biorevitalization in skin rejuvenation. The positive difference between deep and superficial skin hydration registered at the end of the trial suggested improved skin moisture retention of the stratum corneum. Furthermore, the obtained results suggest that the injected product could intervene at different moments of the skin pigmentation process by activating an intrinsic photoprotective mechanism and improving skin pigmentation quality. It may be that these processes employ common mechanisms in which antioxidants could play a pivotal role. This last hypothesis deserves further investigation.
Mesotherapy with hyaluronic acid (HA) is a treatment approach currently used for skin rejuvenation. High-frequency ultrasound (20-100 MHz) is a non-invasive technique that has been used to evaluate age-related dermal changes. The presence and the degree of a typical subepidermal low-echogenic band (SLEB) are photoaging related: the lower the SLEB echogenicity, the higher the photoaging. The aim of this trial was to evaluate, through ultrasound imaging, the long-term effects of microinjections of HA on SLEB echogenicity. Twenty-two women with clinical and ultrasound signs of moderate photoaging were enrolled in the study. Treatment consisted of multiple microinjections of HA salts of biotechnological origin on the dorsum of one hand, once weekly for 4 weeks and, successively, once monthly for 4 months (group A) or 9 months (group B). The dorsum of the other hand of each subject was injected with saline solution and used as a control. In all subjects, high-frequency ultrasound (22 MHz) was performed to evaluate SLEB echogenicity changes during treatment. Eighteen out of 22 patients completed the study. At the end of 4 weeks, an ultrasound increase of dermal echogenicity was observed in 13 subjects (seven of group A and six of group B), which we considered as "responders". In these patients, the Student's t-test showed a significant increase from baseline of SLEB pixel numbers of +24 % (P < 0.01) versus +6 % with placebo. In the same subjects, after an additional 4 months of monthly injections, the mean increase was +18 % (P < 0.05) versus +4 % with placebo. In patients from group B that completed 10 months of treatment, the increase from baseline of SLEB pixel numbers was +18 % (P < 0.05) versus 0 % with placebo. Our study suggests that mesotherapy with HA may effectively improve skin aging and photoaging, as supported by quantifiable ultrasound data showing significant changes in SLEB density over time.
BACKGROUND: Combination treatments of botulinum toxin type-A and other rejuvenation agents or instruments are gradually becoming more popular. After observing a high incidence of therapy failure following simultaneous applications of botulinum toxin type-A and platelet-rich plasma mesotherapy, we aimed to investigate whether PRP has an inhibitory effect on botulinum toxin type-A.

METHODS: Twenty-four New Zealand white rabbits were divided into 4 groups, and the anterior auricular muscle and overlying skin were used for injections. Groups I and II both received onabotulinumtoxinA intramuscular injections. In addition, autologous platelet-rich plasma mesotherapy was performed in Group I while Group II received saline mesotherapy. Group III was designed as the in vitro mixture group in which onabotulinumtoxinA and platelet-rich plasma were mixed and then administered intramuscularly. Group IV received saline within the mixture instead of platelet-rich plasma. The contralateral ears of all the rabbits served as control and were only treated with onabotulinumtoxinA.

Visual evaluation of ear positions and electroneuromyographic studies were done prior to all procedures and at day 14. Anterior auricular muscles were harvested at day 14 and were evaluated with quantitative real-time PCR.

RESULTS: Visual and electroneuromyographic studies revealed less onabotulinumtoxinA activity in Groups I and III. When platelet-rich plasma was administered through skin mesotherapy, onabotulinumtoxinA activity failure was more severe in comparison with direct contact. No significant difference in SNAP-25 mRNA expression through quantitative real-time PCR was observed between groups.

CONCLUSION: Although we could not explain the exact mechanism underlying this interaction, platelet-rich plasma applications result in less onabotulinumtoxinA muscle paralysis activity.
Conservative treatment of cervical radiculopathy with 5% lidocaine medicated plaster

Trattamento conservative della radicolopatia cervicale con lidocaina cerotto 5%

Mattozzi I.

Minerva medica (2015) 106:1 (1-7). Date of Publication: 1 Feb 2015
Clinical, histological, and immunohistochemical evaluation of facial skin remodeling induced by mesotherapy
El-Samahy M., Fathy G., Samir N., Al-Hamad M.

Background The clinical consequences of chronic exposure to ultraviolet radiation on the skin include wrinkling, pigmented changes, roughness, laxity, and telangiectasia, which result in the appearance of aging skin. Facial rejuvenation attributed to mesotherapy is a controversial issue that needs further clarification. Objective To evaluate skin remodeling induced by mesotherapy in photodamaged skin through clinical, histological, and immunohistochemical assessment. Patients and methods Ten volunteers with Fitzpatrick skin type III-IV and Glogau's class I-II wrinkles with early to moderate photodamaged skin underwent 3 months (six sessions at 2-week intervals) of mesotherapy facial treatment. All patients were subjected to standard photographs and skin biopsies. Clinical, histological, and immunohistochemical evaluations were performed at baseline and at the end of the study (2 weeks after the last session). Results Global improvement in photodamaged skin was observed. There was significant reduction in fine lines, coarse wrinkles, and uneven pigmentation (43%, P= 0.008; 10%, P= 0.05; and 15%, P= 0.014, respectively); an overall change in skin tone was detected (P= 0.059). The dermis showed a highly significant decrease in degenerated and disorganized collagen fibers (P= 0.034) and dermal elastosis (P= 0.011). There was a highly significant reduction in dermal immunostaining of matrix metalloproteinase 1 (P = 0.006) and matrix metalloproteinase 9 (P =0.004). Conclusion Mesotherapy might be an effective form of treatment for facial rejuvenation as probably has a role in interfering with the underlying inflammatory processes participating in photoaged skin.
The endometriosis affects significantly the patients' life quality. This study aims at characterizing patients who are ongoing pain consultations and evaluate the effectiveness of therapeutic analgesics. The descriptive cross-sectional observation study was conducted with an anonymised questionnaire for endometriosis patients received at St. Joseph Hospital. The study targeted 92 patients; 45 questionnaires were returned. Ten years elapse between the first pain and the diagnosis. On average, they have been to emergency services twice for hyperalgesia while 11.6% of them consulted more than 10 times. On average, they were sick off work during 21 weeks. 72% of patients had surgery; 16.3% are changing jobs; 100% received a continuous macroprogestin treatment and 83% had a GnRH agonist. Among the five classes of analgesic evaluated (paracetamol, NSAIDs, levels 2 anodynes, antidepressants, antiepileptic), antiepileptic drugs are the most effective (36.7% patients were relieved at a 50% scale and 20% fully), it is however given to only 69.8% of patients. The alternative therapies evaluation (acupuncture, mesotherapy, manual therapy, hypnosis) shows that mesotherapy (58.3% patients were relieved at a 50% scale and 8.3% fully) and manual therapy (55% patients were relieved at a 50% scale and 5% fully) are the most effective. 69.8% of patients believe that pain consultation should be mandatory. Pain consultations are appreciated by the patients. The results of alternative therapies and drug therapies, show that alternative therapies should be offered systematically. A prospective analytical study on the effectiveness of analgesic therapies could improve this subject.
Female androgenetic alopecia, a survey of causes and therapeutic options

Ženská androgenetická alopecie, přehled příčin a léčebných možností Mezoterapie - vlastní studie

Duchková H., Hašková M.

A large list of foreign substances may penetrate the skin and induce a foreign body granulomatous reaction. These particles can enter the skin by voluntary reasons or be caused by accidental inclusion of external substances secondary to cutaneous trauma. In these cases, foreign body granulomas are formed around such disparate substances as starch, cactus bristles, wood splinters, suture material, pencil lead, artificial hair, or insect mouthparts. The purpose of this article is to update dermatologists, pathologists, and other physicians on the most recent etiopathogenesis, clinical presentations, systemic associations, evaluation, and evidence-based management concerning foreign body granulomatous reactions of skin.
Introduction: The efficacy of conventional therapy viz. finasteride and minoxidil in androgenetic alopecia (AGA) that is based on both preventing hair loss and promoting new hair growth, varies between 30% and 60%. This has led to a large number of patients unsatisfied who demand for a better cosmetic coverage over the scalp. Microneedling has recently been reported to be promising, effective and a safe treatment modality in the treatment of AGA. This augments the response of conventional therapy. Materials and Methods: Four men with AGA were on finasteride and 5% minoxidil solution since 2 to 5 years. Though there was no worsening in their respective AGA stages with the therapy, they showed no new hair growth. They were subjected to microneedling procedure over a period of 6 months along with their ongoing therapy. Patients were assessed with the use of the standardized 7-point evaluation scale and patients' subjective hair growth assessment scale. The patients were followed up for 18 months post microneedling procedure to assess the sustainability of the response. Results: All patients showed a response of +2 to +3 on standardized 7-point evaluation scale. The response in the form of new hair growth started after 8-10 sessions. The patients' satisfaction was more than 75% in three patients and more 50% in one patient, on patients' subjective hair growth assessment scale. The obtained results were sustained post procedure during 18 months follow-up period. Conclusion: Treatment with microneedling showed an accelerated response with addition of microneedling procedure leading to significant scalp density. This is the first case series to report the boosting effect of microneedling with respect to new hair follicle stimulation in patients with androgenetic alopecia who were poor responders to conventional therapy.
12th international gulf cooperation council dermatology, venereology, and laser conference, Kuwait, November 19-21, 2013

Schwartz R.A., Hander M.Z.

*Indian Journal of Dermatology (2015) 60:3 (322).* Date of Publication: 1 May 2015
Mycobacterium abscessus skin infection after tattooing - Case report

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Mycobacterium abscessus is a rapidly growing mycobacterium that has been affecting people undergoing invasive procedures, such as videosurgery and mesotherapy. This bacterium has global distribution, being found in numerous niches. The frequency of published reports of infection by rapidly growing mycobacteria associated with tattooing procedures has increased in recent years. However, in Brazil there were no case reports of M. abscessus after tattooing in the literature until now. In this paper, we describe the case of a patient with a ninemonth history of lesion on a tattoo site. The diagnosis of infection with Mycobacterium abscessus was established by correlation between dermatological and histopathological aspects, culture and molecular biology techniques. The patient had significant improvement of symptoms with the use of clarithromycin monotherapy.
5α-reductase inhibitors in androgenetic alopecia
Yim E., Nole K.L.B., Tosti A.

Purpose of review: The authors will review the current literature on efficacy and safety of 5-alpha reductase inhibitors (5aRIs) for androgenetic alopecia (AGA). Recent findings: The 5αRI finasteride and dutasteride are effective in treating AGA and promoting hair regrowth. 5αRI can be given orally, topically and more recently through mesotherapy. However, there has been an increasing concern about permanent sexual adverse events such as impotence and infertility. Most of these reports are published as case reports, and two studies reporting persistent sexual side-effects after discontinuation of finasteride had serious method limitations, as patients were recruited from a website. To our knowledge, permanent sexual adverse events have yet to be published in higher quality studies, such as randomized controlled trials. Although patients treated with 5αRIs have an increased incidence of sexual adverse events, these events decrease if discontinued or over time with continued therapy. Summary: Sexual side-effects are uncommon and resolve spontaneously in most patients even without discontinuing therapy. Significant effort is underway to find delivery systems that optimize delivery and reduce systemic absorption of topical 5αRs including hydroxypropyl chitosan and liposomal and nanoparticulate systems.
RECORD 117

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Yim E., Nole K.L., Tosti A.

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RECENT FINDINGS: The 5αRI finasteride and dutasteride are effective in treating AGA and promoting hair regrowth. 5αRI can be given orally, topically and more recently through mesotherapy. However, there has been an increasing concern about permanent sexual adverse events such as impotence and infertility. Most of these reports are published as case reports, and two studies reporting persistent sexual side-effects after discontinuation of finasteride had serious method limitations, as patients were recruited from a website. To our knowledge, permanent sexual adverse events have yet to be published in higher quality studies, such as randomized controlled trials. Although patients treated with 5αRIs have an increased incidence of sexual adverse events, these events decrease if discontinued or over time with continued therapy.

SUMMARY: Sexual side-effects are uncommon and resolve spontaneously in most patients even without discontinuing therapy. Significant effort is underway to find delivery systems that optimize delivery and reduce systemic absorption of topical 5αRs including hydroxypropyl chitosan and liposomal and nanoparticulate systems.
A case of foreign body granuloma due to mesotherapy
*Journal of Dermatology (2014) 41 SUPPL. 1 (49).* Date of Publication: October 2014

Mesotherapy is a minimally invasive procedure that involves the injection of substances into the dermis and subcutaneous tissue for medical to esthetic problems. Particularly, it is gaining popularity in esthetics such as wrinkles, weight loss, skin rejuvenation, alopecia. In addition, adverse reactions are increasing as well. Here, we report a rare case of foreign body granuloma due to mesotherapy for body contouring. A 28-year-old woman visited our clinic with complaints of multiple subcutaneous nodules on the abdomen for 18 months. She had several sessions of mesotherapy done for body contouring with mixture of aminophylline, caffeine sodium benzoate, pentoxifylline, procaine HCL 2%, normal saline. On physical examination, multiple tender and mildly depressed subcutaneous nodules were observed on the injected area of the abdomen. Ultrasoundographic examination of the nodules demonstrated a round heterogenous echogenicity on subcutaneous fat layer. On histopathological examination, granulomatous inflammatory infiltration and foreign body type multinucleated giant cells were shown in the dermis and subcutaneous fat layer. She was treated with intralesional injection of 10 mg/ml triamcinolone acetonide once a month. After four months, the size of nodules slightly decreased.
Non-tuberculous mycobacterial skin infection is uncommon but its incidence is increasing. The infection usually follows local trauma including medical procedures like injection and surgery. Meanwhile, mesotherapy is a popular but controversial therapeutic technique, often chosen as a safe non-surgical alternative to liposuction. It consists of mesodermal injections of various substances used for analgesics or aesthetic purposes. We present 3 cases of cutaneous Mycobacterium abscessus infection following mesotherapy. Mycobacterium abscessus is rapid-growing atypical mycobacterium that has been reported to cause various skin and soft tissue infections. The patients were middle-aged women with painful, multiple, erythematous abscess plaques on the injection sites like abdominal wall and inner thighs. The lesions developed 1-2 months after mesotherapy. They were successfully treated with abscess drainage and combination antibiotic therapy including clarithromycin. Atypical mycobacterial infection should be suspected in patients who develop late-onset cutaneous infection after skin injury, injection, surgical intervention, particularly those do not respond to conventional antibiotic treatment.
Coming from a tropical country where brown skin is actually beautiful, majority of my Filipina patients prefer to have fairer skin. For a multitude of reasons, one's interest in commercial skin lightening products becomes a hype and therefore hope comes easily as these commodities proliferate in the market and drugstores. They come in the form of creams, pills, soaps or lotions, many of which are bought because of tri-media advertisement or high profile endorsements. Unfortunately, some of these skin lightening agents don't really work or don't have sufficient studies to guarantee efficacy and safety. Standard skin lightening agents include hydroquinone, kojic, licorice, azelaic and while alternative treatment for hyperpigmentation includes multiple herbal compounds, the discussion on combination therapy will be relevant. A few of the trials on depigmenting agents done at the Research Institute of Tropical Medicine will be shared. A. TOPICALS, to include tetrahydrocurcumin, indomethacin B. Skin lightening agents thru enhanced delivery system, to include tranexamic acid solution via iontophoresis technology, glutathione via iontophoresis and glutathione via mesotherapy C. ORAL, to include Procyanidin and Glutathione.
Since its introduction by Illouz and others over 30 years ago, suction-assisted lipectomy/liposuction/lipoplasty has evolved tremendously and has developed into one of the most popular procedures in aesthetic plastic surgery. Liposuction is an effective procedure employed to treat localized adipose deposits in patients not suffering from generalized obesity. These accumulations of subcutaneous fat often occur in predictable distributions in both men and women. A cannula connected to a suction-generating source allows for small incisions to be strategically placed and large volumes of fat to be removed. This fat removal leads to improved harmonious balance of a patient's physique and improved body contour. Various surgical techniques are available and have evolved as technology has improved. Current technology for liposuction includes suction-assisted lipectomy, ultrasound-assisted, power-assisted, laser-assisted, and radiofrequency-assisted. The choice of technology and technique often depends on patient characteristics and surgeon preference. The objective of this review is to provide a thorough assessment of current technologies available to plastic surgeons performing liposuction. © 2014 Shridharani et al.
Mesotherapy in the treatment of regional musculoskeletal pain in rehabilitation medicine
Boudokhane S., El Mtaoua S., Salah S., Migadou H., Aoud W., Elmay W., Jellad A., Ben Salah Frih Z.
Annals of Physical and Rehabilitation Medicine (2014) 57 SUPPL. 1 (e198). Date of Publication: May 2014

Aim.-To determine the contribution of mesotherapy in the treatment of patients with regional musculoskeletal pain. Methods.- Mesotherapy consists in the injection of procaine, thiocolchicoside and piroxicam intradermally over the affected zone. Subjects were assigned to receive 4 weeks treatments. Results.- The mean age of patients was 47 years. The mean duration of the symptoms was 49 months. The main indication of mesotherapy is chronic low back pain (42%), followed by neck pain (14%), osteoarthritis (14%), lateral epicondylitis (20%) and shoulder pain (10%). Participants reported a slight discomfort at the time of the inoculation in the neck region. Mesotherapy shows more effective results in pain intensity and self-satisfaction (57.2%). Patients relate a total remission of the pain in 11% of cases. Discussion.- Our results suggest that the response to mesotherapy may be greater in the short term follow-up. This technique could be a viable option as an adjunct treatment in an overall treatment planning of regional musculoskeletal pain.
RECORD 123
The analgesic effect of mesotherapy on musculoskeletal pain: Our 12 months clinical experience
Annals of Physical and Rehabilitation Medicine (2014) 57 SUPPL. 1 (e274). Date of Publication: May 2014

Background.- Mesotherapy is a minimally invasive technique used to inject active substances into the superficial layer of the skin. The main clinical advantage of mesotherapy is the obtained local pharmacological effect with avoidance of high systemic drug concentrations. Methods.- In the last 12 months we treated 18 patients with tennis elbow (4), golf elbow (3), low back pain (6) and shoulder pain (5). All patients received a combination of 3 substances (0.9% sodium chloride, lysine acetyl salicylate and lidocaine 2%). Pain intensity was measured at baseline and after the completion of 7 weekly sessions with visual analogue 1-10 scale. Results.- The mean value of pain intensity at baseline was 7.8. After the completion of the 7 weekly mesotherapy sessions, measurements presented a mean value of 4. The major improvement was observed in patients with low back pain and the lowest in shoulder pain patients. Discussion.- Mesotherapy has a significant analgesic effect on musculoskeletal pain, were the long-term systemic administration of NSAIDs may provoke serious complications.
Background: Mesotherapy with hyaluronic acid (HA) is a treatment approach currently used in cosmetic dermatology for skin rejuvenation. High-frequency ultrasound (>16 MHz) is a noninvasive technique that has been used to evaluate agerelated dermal changes. The presence and the degree of a typical subepidermal low-echogenic band (SLEB) are photoage-related: the lower the SLEB echogenicity, the higher the photoaging. The aim of this study was to evaluate, through ultrasound imaging, the effects of microinjections of HA on skin photoaging.

Methods: Twenty-two women (mean age: 50.5 years, range 36-65 years) with clinical and ultrasound signs of moderate photoaging were enrolled in the study. Treatment consisted of multiple microinjections of HA salts of biotechnological origin (total amount injected in each session: 20 mg/mL) on the face and on the dorsal surface of 1 hand, once weekly for 4 weeks and, successively, once monthly for 4 months (for a total of 5 months of treatment, Group A) or 9 months (for a total of 10 months of treatment, Group B). The dorsal surface of the other hand of each subject was injected with saline solution with similar timing and used as control. In all subjects, ultrasound was performed on a target area corresponding to the second metacarpal web space of the hands just before and 1 week after each treatment to evaluate SLEB echogenicity changes during treatment. Cross-sectional B-mode scans were obtained by a 22-MHz ultrasound system. For each examined field, the amplitudes of echoes of single image elements (pixels) of the SLEB were ascribed to a numerical scale (0-255) and mean gray values were quantified with ImageJ public domain software.

Results: Eighteen women completed the treatment. After 5 weeks, ultrasound increase of dermal echogenicity was observed in 13 subjects, with a significant mean increase of pixel numbers of the SLEB from baseline of +24.3% vs +6.5% of placebo (P<.01); after 5 months, the mean increase was +19.5% vs +6.5% placebo (P<.05). In 6 out of 9 subjects who completed the 10-month treatment the mean increase was +19.5% vs 0% placebo (P<.05).

Conclusions: Our study suggests that mesotherapy with HA is a helpful treatment for skin photoaging, as confirmed by ultrasound results that showed significant changes in SLEB density with time. These are likely related to an increased density or rearrangement of dermal collagen fibers by fibroblast activation resulting from treatment.
Background.- Ankle osteoarthritis (AOA) produces chronic disability that directly impacts QoL. There is limited published literature relating to use of hyaluronic acid (HA) in ankle and pain relief.

Objective.- This might be the first study to access effectiveness of HA intraarticular administration and mesotherapy for treatment of AOA pain.

Methods.- Medical files over a period of 54 months of a cohort of 25 patients with AOA were reviewed. Treatment consisted of intra-articular injection of 2 cm3 of HA between talus and tibia and intradermal injections of lidocaine, piroxicam and thiocolchicoside, 10 cm3 in total. Main outcome was patient's Pain Rating scale (PRS) before and after treatment.

Results.- Twenty-five patients included (21 females), mean age 65.5 years (±13.57), aged 36 to 87-years-old. Ten patients treated bilaterally, 7 right side treated. Total number of treatment sessions ranged from 1 to 9 (mean 3.08). Median values of PRS results before and after treatment were 9.5 (min. 6, max.10) and 4.5 (min. 0, max. 10) respectively, with a significant improvement (P < 0.001). Analgesic effect lasted from 2 weeks until 6 months. There were no adverse effects.

Discussion.- The HA intra-articular injection associated to mesotherapy can reduce significantly pain in AOA. Further studies are needed to confirm its benefit.
Lumbar disc herniation in an 11-year-old gymnastic player
Demir Y., Aras B., Güzeltüccü Ü., Taskaynatan M.A., Tan A.K.
Annals of Physical and Rehabilitation Medicine (2014) 57 SUPPL. 1 (e274). Date of Publication: May 2014

Background.- Pediatric disk herniation should be considered in the differential diagnosis of the child with back pain. In children, the average interval between onset of symptoms of disc herniation and diagnosis is 10 months, compared with 4.7 months in adults. Observation.- A 11-year-old gymnastic player admitted to our hospital with lower back pain. She claimed that she had been enrolled in intense gymnastic lessons for the last year. On physical examination the movement of the lumbosacral spine were painful. She reported reproduction of pain at 30 degrees for left and 60 degrees for right while straight leg raising test. The manual muscle testing of both upper and lower extremities, sensation examination and deep tendon reflexes were normal. MRI showed grade I spondylolisthesis of L5-S1 vertebrae and a large extrusion of the L5-S1 disc. With the diagnosis of lumbar disc herniation we arranged 15 sessions of electrotherapy and physical therapy. Her pain was not decreased after conventional treatment and she was sent to surgery. Discussion.- It should always be kept in mind that sports or positions which are challenging lumbar spine like gymnastics may cause intervertebral disc overloading and may trigger lumbar disc diseases.
Impact of physical exercise in dialysis patients
Ben Salah Frih Z., Boudokhane S., Migaou H., Salah S., Jellad A.
Annals of Physical and Rehabilitation Medicine (2014) 57 SUPPL. 1 (e278-e279). Date of Publication: May 2014

Background.- Survival in dialysis patients increases by improving their management. However, the quality of life and physical condition of dialysis patients remains compromised. Objective.- To evaluate the effects of physical adapted activity based on flexibility, strength and endurance exercises program. Methods.- A group of 30 hemodialysis patients followed from the department of nephrology and hemodialysis following a physical activity program during 3 months, 2 times a week. The evaluation is performed before and after the proposed protocol by: quality of life (SF36), anxiety and depressive symptoms (HAD), lipid and test six-minute walk (T6MM). Results.- There was no undesirable event during rehabilitation sessions. Quality of life (physical and mental component) and anxious componentHADimproved significantly. Distance walked on the 6MWT increased by 16.5%. Lipid profile is also improved (HDL and LDL - cholesterol, triglyceride). Discussion/conclusion.- Prescribing of adapted physical activity is highly recommended for the population of hemodialysis patients and appears to be a safe and effective alternative to develop functional capacity, quality of life and the psychological profile of hemodialysis patients.
Background. Telangiectasia is the dilation of dermal capillaries mainly due to hypertension and vein insufficiency. Treatments of choice for this condition are sclerotherapy with foam liquid or intradermal fiber optic laser energy delivery. Aim. The aim of this study was to assess the efficacy of a new therapeutic approach consisting in the use of polymerized hyaluronic acid mesotherapeutic injections following sclerotherapy in the areas of the skin affected by telangiectasia in patients without major vein insufficiency. Materials and Methods. A total of 20 women, aged between 19 and 64 years, affected by recurrent lower leg telangiectasia, were included in this study. Patients were preliminarily submitted to echo color Doppler sonography to rule out severe saphenofemoral valve and lower limb major vein insufficiency. All patients underwent 3 sessions a month of polidocanol 1% capillary injections for 2 months. This was followed by 0.1 ml cross-linked hyaluronic acid introduction in the polidocanol 1% needle track. A total of 50 mesotherapeutic injections (0.05 ml each) were performed on the skin surface where an ice pack was previously applied for 4 to 5 minutes. A follow-up visit was performed at 3 months. The results, based on photographic examination, were rated as follows: poor improvement (0%-50%), good improvement (51%-75%), and very good improvement (76%-100%). The side effects of the clinical procedure, in terms of pain, itching, paresthesia, ecchymosis, and relapse of telangiectasia over the treated skin surface, as well as a persisting pigmentation in the injection spots and induced benefits related to leg heaviness and comfort, were recorded. Results. In total, 6 patients displayed a slight venous insufficiency, 3 patients displayed patent venous insufficiency, and 11 patients did not show any venous insufficiency. Before treatment, itching was present in 18 out of 20 patients, paresthesia in 15 out of 20 patients, ecchymosis in 16 out of 20 patients, and leg heaviness in 15 out of 20 patients. At the 3-month follow-up, an improvement of 0% to 50% was observed in 4 patients who had a relapse in telangiectasia. A 51% to 75% improvement was observed in 3 patients and a 76% to 100% improvement occurred in 13 patients. At the 3-month follow-up, itching persisted only in 4 patients; paresthesia was absent in 12 patients, while 3 patients still presented this symptom; ecchymosis was absent in 16 patients; 15 patients reported a feeling of lightweight legs. Among the patients with relapsing telangiectasia, 2 patients reported pigmentation due to hemosiderin deposit in the skin at the 3-month follow-up. The slight venous insufficiency, observed at the beginning of the study, improved in 5 out of 6 patients. The patients' compliance with the procedure was high and 16 out of 20 patients declared their willingness to repeat the whole clinical procedure, if necessary. Conclusions. This pilot clinical study supports the use of hyaluronic acid mesotherapeutic injections following sclerotherapy for treatment of lower leg telangiectasia without major venous insufficiency. We propose that the prolonged persistence of cross-linked hyaluronic acid, across the microvascular venous areas, is able to induce a stronger stromal tissue, thus preventing relapse. Further clinical studies, comparing this new approach with existing clinical procedures, are needed in a larger number of patients. © 2012 The Author(s).
Representative Sample: Current work relates about the experience of pain therapy center held in Rome, at the Hospital S. Camillo-Forlanini, within two years, from Sept. 2011 till September 2013, focusing on the treatment of neuropathic pain with RFP in patients who do not respond to drug therapy and other invasive techniques. After proper evaluation of the exclusion criteria, a sample group of 50 patients has been analyzed. Purpose: Assuming that the application of the RFP in the spinal radiculopathy by epidural catheter allows a dedicated multi-function and pharmacological neuromodulative treatment (superselective administration of cortisone) of the DRG and spinal root in its preganglionic section, we have included these steps as part of multimodal analgesic treatment and rehabilitation algorithm in order to analyze the results in terms of pain reduction and improved quality of life on the medium/long term. Materials and Methods: Inclusion criteria: • Patients with radiculopathy lumbosacral region. • Patients who do not respond to drug treatment properly. • Patients who do not respond to other treatments (mesotherapy, peripheral nerve blocks and/or epidural) Exclusion criteria: • Patients suffering of chronic low back pain of neoplastic origin. Representative Sample: • 50 patients have been selected, having 2nd level spoke: 27 males and 23 females, aged between 36 and 85 years old, afflicted with lumbar neuropathic pain neuropathic neither responding to drug therapy nor other invasive techniques. • All patients included in this study had made a lumbosacral region x-ray (first ingress check), lumbosacral region RM and lower arts EMG (mandatory checks for application for the procedure) • The 50 patients have been classified based on starting VAS and pharmacological therapy. • The analgesic effect has been evaluated through a visual 10 points VAS and by valuating the Pain Relief (PR) on 30, 90 and 180 days. Furthermore the Oswestry Disability Index (ODI) assessment has been carried out on 30, 90 and 180 days. Patients showing positive result were enrolled into rehabilitation after 30-40 days from the procedure above. Results: The technique did not present any negative event and/or severe complications. Our result, in absencia of clinical sign of denervation, confirm, even though indirectly, the hypothesis that RFP usage, even with high voltage on a nerve structure with strict temperature control, do not generate neuroablation, but, according to most recent literature, produces only reversible wounds and a rearrangement shock activities of sensitive neurons. Future Developments. The RFP should be involved into the methodology of Neuromodulation of neural transmission, whose mechanism are still to be clarified but prospective multicenter studies would be beneficial, to be random applied on homogeneous group of patients that may provide more significant result and more information than basic research on RFP mechanism and that may direct further the clinical application.
PURPOSE OF REVIEW: Skin and soft tissues infections (SSTIs) caused by nontuberculous mycobacteria (NTM) are underrecognized and difficult to treat. Controversies exist for optimal medical management and the role of surgery. Defining the epidemiology in the environment, in animals and in healthcare aids disease prevention. This review focuses on recent advances in epidemiology, risk factors, diagnostics and therapy. RECENT FINDINGS: The increasing consumer appetite for cosmetic and body-modifying procedures (e.g. tattooing, mesotherapy, liposuction) has been associated with rises in sporadic cases and outbreaks of NTM SSTIs. In mainstream healthcare, recent epidemiological studies have helped to quantify the increased risk of NTM infection related to anti-tumour necrosis factor-α monoclonal antibody therapy. Cervicofacial lymphadenitis in children poses management dilemmas, but recent studies and resultant algorithms have simplified decision-making. Molecular studies have led to a better understanding of the epidemiology, therapy and course of Mycobacterium ulcerans infection (Buruli ulcer) that remains prevalent in many areas including sub-Saharan Africa and southeastern Australia. Apart from molecular methods, the widespread adoption of matrix-assisted laser desorption ionization-time of flight mass spectrometry by routine laboratories has potential to simplify and expedite the laboratory identification of NTMs. SUMMARY: An improved understanding of the epidemiology of NTM SSTIs indicates a need to apply effective infection control and ensure regulation of cosmetic and related procedures associated with nonsterile fluids. Broader access to newer diagnostic methods will continue to improve recognition of NTM disease. Along with a paucity of therapeutic agents, there is need for more reliable methods to assess susceptibility and selection of effective combination therapy. Copyright © 2014 Wolters Kluwer Health / Lippincott Williams & Wilkins.
Background: Evidence suggests that the course of low back pain (LBP) symptoms in randomised clinical trials (RCTs) follows a pattern of large improvement regardless of the type of treatment. A similar pattern was independently observed in observational studies. However, there is an assumption that the clinical course of symptoms is particularly influenced in RCTs by mere participation in the trials. To test this assumption, the aim of our study was to compare the course of LBP in RCTs and observational studies. Methods. Source of studies CENTRAL database for RCTs and MEDLINE, CINAHL, EMBASE and hand search of systematic reviews for cohort studies. Studies include individuals aged 18 or over, and concern non-specific LBP. Trials had to concern primary care treatments. Data were extracted on pain intensity. Meta-regression analysis was used to compare the pooled within-group change in pain in RCTs with that in cohort studies calculated as the standardised mean change (SMC). Results: 70 RCTs and 19 cohort studies were included, out of 1134 and 653 identified respectively. LBP symptoms followed a similar course in RCTs and cohort studies: a rapid improvement in the first 6 weeks followed by a smaller further improvement until 52 weeks. There was no statistically significant difference in pooled SMC between RCTs and cohort studies at any time point:- 6 weeks: RCTs: SMC 1.0 (95% CI 0.9 to 1.0) and cohorts 1.2 (0.7 to 1.7); 13 weeks: RCTs 1.2 (1.1 to 1.3) and cohorts 1.0 (0.8 to 1.3); 27 weeks: RCTs 1.1 (1.0 to 1.2) and cohorts 1.2 (0.8 to 1.7); 52 weeks: RCTs 0.9 (0.8 to 1.0) and cohorts 1.1 (0.8 to 1.6). Conclusions: The clinical course of LBP symptoms followed a pattern that was similar in RCTs and cohort observational studies. In addition to a shared 'natural history', enrolment of LBP patients in clinical studies is likely to provoke responses that reflect the nonspecific effects of seeking and receiving care, independent of the study design. © 2014 Artus et al.; licensee BioMed Central Ltd.
RECORD 132
Ninth World Congress of the International Academy of Cosmetic Dermatology, Athens, Greece, June 27-30, 2013
Petronic-Rosic V.
Clinics in Dermatology (2014) 32:2 (331-334). Date of Publication: March 2014
Role of the informed consent, from mesotherapy to opioid therapy


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Informed consent is part of a process of communication useful to obtain an agreement (conscious, voluntary and free) between doctors and patients. Mesotherapy is based on the introduction of drugs by intradermal route in order to obtain a dose-sparing effect with respect to deeper administration. Opioids are the most appropriate therapy for patients who do not respond to other therapies. Proper communication between doctor and patient, including an explanation of the potential benefits, limitations and risks (even mild), is recommended both in clinical practice and research. Active participation of the patient has the advantage of better control of adverse events, both of mesotherapy and opioid-based therapy. This information-education process returns to the fundamental concept of "first do no harm" and set a "therapeutic partnership" with patients.
Background: The carpal tunnel syndrome (CTS) is the most common cause of severe hand pain. In this study we treated acute pain in CTS patients by means of local intradermal injections of anti-inflammatory drugs (mesotherapy). Methods: In twenty-five patients (forty-five hands), CTS diagnosis was confirmed by clinical and neurophysiological examination prior to mesotherapy. A mixture containing lidocaine 10 mg, ketoprophen lysine-acetylsalicylate 80 mg, xantinol nicotinate 100 mg, cyanocobalamine 1,000 mcg plus injectable water was used. Sites of injection were three parallel lines above the transverse carpal ligament and two v-shaped lines, one at the base of the thenar eminence, and the other at the base of the hypothenar eminence. Results: The day after the treatment, all but four patients reported a significant reduction in pain and paresthesias. After 12 months, 17 patients had a complete pain relief, eight patients reported recurrence of pain and sensory symptoms and four out of them underwent surgical treatment. Conclusions: With the obvious limits of a small-size open-label study, our results suggest that mesotherapy can temporary relieve pain and paresthesias in most CTS patients and in some cases its effect seems to be long-lasting. Further controlled studies are needed to confirm our preliminary findings and to compare mesotherapy to conventional approaches for the treatment of CTS. © The Korean Pain Society, 2014.
Introduction: Two patients, at the age of 25 and 48 years were found to have stretch marks (early stage) probably caused by disorders of corticosteroid levels and/or protein deficiency in the diet, and as a consequence of excessive stretching of the skin (pregnancy in one patient, obesity in the other). Aim of the study: Evaluation of the effectiveness and the course of two methods of combinational therapy in patients with early stretch marks with different etiological background. Material and methods: The method of combinational therapy (microdermabrasion plus mesotherapy and microdermabrasion plus chemical peels) was used. Results: In both patients satisfactory therapeutic results were achieved despite different etiological backgrounds of the found stretch marks. Conclusions: Microdermabrasion used together with mesotherapy or with chemical peels gives satisfactory effects in early stretch marks therapy regardless of their etiological background.
The use of breast implants in breast reconstructive surgery is currently the most popular choice among surgeons. Following the introduction of acellular dermal matrices in breast reconstruction, some surgeons proposed their use also in complication repair surgery. In this work, we present our method of treatment of the exposed breast implant using an acellular dermal matrix (Strattice) combined with a series of mesotherapy with platelet-rich plasma (PRP). A group of five women, all treated with radiotherapy, who had a breast implant exposure following post-oncological reconstructive surgery were treated in our unit in the period from March 2011 to November 2012. Only those patients who presented an extrusion area less than 3-3.5 cm, without evident signs of implant infection, were included in this study. After perilesional tissue excision and pocket lavage, the acellular dermal matrix was fixed in the pocket and a new implant was positioned. After the surgery, patients underwent a four-session cycle of mesotherapy with autologous PRP. In four patients, the implant exposure was successfully resolved using the acellular dermal matrix without postoperative complications. One patient developed a prosthesis infection which required its explant and subsequent reconstruction with latissimus dorsi flap. The surgical technique that we describe is proposed, in selected cases, as an alternative to the classical procedures for those patients who are undecided about undergoing further surgery, with long time and demanding demolition. Further studies involving larger case series are necessary. Level of Evidence: Level V, therapeutic study. © 2013 Springer-Verlag.
The effect of microneedle thickness on pain during minimally invasive facial procedures: A clinical study
Sezgin B., Ozel B., Bulam H., Guney K., Tuncer S., Cenetoglu S.

Background: Minimally invasive procedures are becoming increasingly popular because they require minimal downtime and are effective for achieving a more youthful appearance. The choice of needle for minimally invasive procedures can be a major factor in the patient’s comfort level, which in turn affects the physician’s comfort level. Objectives: In this comparative study, the authors assessed levels of pain and bruising after participants were injected with 30-gauge or 33-gauge (G) microneedles, which are commonly used for minimally invasive injection procedures. Methods: Twenty healthy volunteers were recruited for this prospective study. Eight injection points (4 on each side of the face) were determined for each patient. All participants received injections of saline with both microneedles in a randomized, blinded fashion. Levels of pain and bruising were assessed and analyzed for significance. Results: The highest level of pain was in the malar region, and the lowest level was in the glabella. Although all pain scores were lower for the 33-G microneedle, the difference was significant only for the forehead. Because most minimally invasive procedures require multiple injections during the same sitting, the overall procedure was evaluated as well. Assessment of the multiple-injection process demonstrated a significant difference in pain level, favoring the 33-G needle. Although the difference in bruising was not statistically significant between the 2 needles, the degree of bruising was lower with the 33-G needle. Conclusions: For procedures that involve multiple injections to the face (such as mesotherapy and injection of botulinum toxin A), thinner needles result in less pain, making the overall experience more comfortable for the patient and the physician. © 2014 The American Society for Aesthetic Plastic Surgery, Inc.
Cellulitis is one of the most common cosmetic problems concerning millions of women all around the world, and is characterized by some changes which causes typical orange peel appearances in abdominal and pelvic areas and lower extremities. Lots of factors playing roles in cellulite progress such as gender, ethnic origin and environmental factors are as important as genetic tendency. Although, most of the treatment options used in cellulitis treatment provides a medium level recovery; these effects are mostly reversible. We can classify existing cellulitis treatment methods such as; attenuation of aggravating factors; physical, chemical and thermal methods and pharmacologic treatments. With regards to attenuation of aggravating factors; weight loss is one of the most important treatment options. Endermologie, subcision, mesotherapy, ultrasound, phototherapy, lasers, liposuction, radiofrequency and selective cryolysis are very important and effective treatment modalities in cellulitis treatment on which they have physical, chemical and thermal effects. Moreover, currently so many pharmacologic agents are in use in cellulitis treatment and the efforts to create newer and more effective treatment options are still going on day by day. © 2014 by Turkish Society of Dermatology.
A lasting dream of human beings is to reverse or postpone aging. In this study, dimethylaminoethanol (DMAE) and compound amino acid (AA) in Mesotherapy were investigated for their potential antiaging effects on D-galactose induced aging skin. At 18 days after D-galactose induction, each rat was treated with intradermal microinjection of saline, AA, 0.1% DMAE, 0.2% DMAE, 0.1% DMAE + AA, or 0.2% DMAE + AA, respectively. At 42 days after treatment, the skin wound was harvested and assayed. Measurement of epidermal and dermal thickness in 0.1% DMAE + AA and 0.2% DMAE + AA groups appeared significantly thicker than aging control rats. No differences were found in tissue water content among groups. Hydroxyproline in 0.1% DMAE + AA, 0.2% DMAE + AA, and sham control groups was much higher than all other groups. Collagen type I, type III, and MMP-1 expression was highly upregulated in both 0.1% DMAE + AA and 0.2% DMAE + AA groups compared with aging control. In contrast, TIMP-1 expression levels of various aging groups were significantly reduced when compared to sham control. Coinjection of DMAE and AA into target tissue has marked antiaging effects on D-galactose induced skin aging model of rat.
RECORD 141
Characteristics of patients consulting their regular primary care physician according to their prescribing preferences for homeopathy and complementary medicine
Homeopathy (2014) 103:1 (51-57). Date of Publication: January 2014

Background: Homeopathic care has not been well documented in terms of its impact on patients' utilization of drugs or other complementary and alternative medicines (CAM). The objective of this study was to describe and compare patients who visit physicians in general practice (GPs) who prescribe only conventional medicines (GP-CM), regularly prescribe homeopathy within a mixed practice (GP-Mx), or are certified homeopathic GPs (GP-Ho). Material and methods: The EPI3-LASER study was a nationwide observational survey of a representative sample of GPs and their patients from across France. Physicians recorded their diagnoses and prescriptions on participating patients who completed a self-questionnaire on socio-demographics, lifestyle, quality of life Short Form 12 (SF-12) and the complementary and alternative medicine beliefs inventory (CAMBI). Results: A total of 6379 patients (participation rate 73.1%) recruited from 804 GP practices participated in this survey. Patients attending a GP-Ho were slightly more often female with higher education than in the GP-CM group and had markedly healthier lifestyle. They did not differ greatly in their comorbidities or quality of life but exhibited large differences in their beliefs in holistic medicine and natural treatments, and in their attitude toward participating in their own care. Similar but less striking observations were made in patients of the GP-Mx group. Conclusion: Patients seeking care with a homeopathic GP did not differ greatly in their socio-demographic characteristics but more so by their healthier lifestyle and positive attitude toward CAM. Further research is needed to explore the directionality of those associations and to assess the potential economic benefits of homeopathic management in primary care. © 2013 The Faculty of Homeopathy.
Platelet-rich plasma in dermatology
Langer C., Mahajan V.
Noninvasive and minimally invasive techniques in body contouring
Afrooz P.N., Pozner J.N., DiBernardo B.E.

Major surgical body contouring procedures have several inherent drawbacks, including hospitalization, anesthetic use, pain, swelling, and prolonged recovery. It is for these reasons that body contouring through noninvasive and minimally invasive methods has become one of the most alluring areas in aesthetic surgery. Patient expectations and demands have driven the field toward safer, less-invasive procedures with less discomfort, fewer complications, and a shorter recovery. In this article, the current minimally invasive and noninvasive modalities for body contouring are reviewed.
Calcium crystal arthritis is often unrecognized, poorly managed, and few effective therapies are available. The most common types of calcium crystals causing musculoskeletal syndromes are calcium pyrophosphate (CPP) and basic calcium phosphate (BCP). Associated syndromes have different clinical presentations and divergent management strategies. Acute CPP arthritis is treated similarly to acute gouty arthritis, whereas chronic CPP and BCP arthropathy may respond to strategies used for osteoarthritis. Calcific tendonitis is treated with a variety of interventions designed to dissolve BCP crystals. A better understanding of the causes and larger well-planned trials of current therapies will lead to improved care. © 2014 Elsevier Inc.
Outbreaks of infections by rapidly growing mycobacteria following invasive procedures, such as ophthalmological, laparoscopic, arthroscopic, plastic, and cardiac surgeries, mesotherapy, and vaccination, have been detected in Brazil since 1998. Members of the Mycobacterium chelonae-Mycobacterium abscessus group have caused most of these outbreaks. As part of an epidemiological investigation, the isolates were typed by pulsed-field gel electrophoresis (PFGE). In this project, we performed a large-scale comparison of PFGE profiles with the results of a recently developed multilocus sequence typing (MLST) scheme for M. abscessus. Ninety-three isolates were analyzed, with 40 M. abscessus subsp. abscessus isolates, 47 M. abscessus subsp. bolletii isolates, and six isolates with no assigned subspecies. Forty-five isolates were obtained during five outbreaks, and 48 were sporadic isolates that were not associated with outbreaks. For MLST, seven housekeeping genes (argH, cya, glpK, gnd, murC, pta, and purH) were sequenced, and each isolate was assigned a sequence type (ST) from the combination of obtained alleles. The PFGE patterns of DraI-digested DNA were compared with the MLST results. All isolates were analyzable by both methods. Isolates from monoclonal outbreaks showed unique STs and indistinguishable or very similar PFGE patterns. Thirty-three STs and 49 unique PFGE patterns were identified among the 93 isolates. The Simpson's index of diversity values for MLST and PFGE were 0.69 and 0.93, respectively, for M. abscessus subsp. abscessus and 0.96 and 0.97, respectively, for M. abscessus subsp. bolletii. In conclusion, the MLST scheme showed 100% typeability and grouped monoclonal outbreak isolates in agreement with PFGE, but it was less discriminative than PFGE for M. abscessus. Copyright © 2014, American Society for Microbiology. All Rights Reserved.
This article describes a complete prototype system that can be used in electrotherapy treatments, that is, in medical treatments involving electric currents. The system is composed of two main blocks: the master and the slave. The Master block, whose main component is a CPU, controls the user interface. The Slave block, which is composed of a microcontroller and a wave generator, produces the appropriated voltages and currents compatible with the desired treatment. The whole system is powered by a 12 V power supply and the output signal voltage ranges between -100 V and 100 V. Despite the prototype being able of performing all the electrotherapy treatments in the low-medium frequency ranges, it was tested in aesthetic mesotherapy, namely in anticellulite, located anticellulite, antistretch, and antiflaccidity. In these treatments, the output signal is composed of an overlap of two frequencies: the first one is selected in the range of 1.2 kHz - 1.8 kHz and the second in the range of 0.07 Hz - 2 Hz. The system was tested in a clinical environment with real patients. It showed good results both in effectiveness of treatments and in terms of pain suffered by the patients. © Rocha et al.
Aging of the skin is a multifactorial phenomenon in which ongoing intrinsic changes combine the cumulative effects of chronic exposure to the elements, primarily UV radiation, in a synergistic fashion, causing the skin to lose its thickness and elasticity and develop wrinkles. There is now an increased interest in a wide range of non-ablative treatments for skin aging, which are used to rejuvenate skin with minimal downtime and complications. As the demand for minimally invasive rejuvenation is increasing, different modalities have been designed to produce favorable alterations in the dermis with no epidermal damage via photomodulation, selective photothermolysis, fractional photothermolysis, radio waves, electro-optical synergy, injectable fillers, neurotoxins, skin needling and biorejuvenation to stimulate collagen synthesis and rejuvenate the aged skin while preserving the integrity of the epidermis. © 2013 Informa UK Ltd.
Background Nicolau's livedoid dermatitis is associated with drug-induced embolism in the cutaneous arterial bed, generally as a result of accidental intra-arterial injection. Herein, we report a case that is somewhat surprising because of its late onset following mesotherapy injections. Case report A 53-year-old man, with a history solely of tendinopathy for which he underwent mesotherapy sessions, consulted for livedoid lesions of the front of the knee with central necrosis. History-taking revealed a final course of mesotherapy three weeks earlier for patellar tendinitis below the left kneecap; intradermal injection of procaine and piroxicam had been unusually and intensely painful. The remainder of the clinical examination revealed additional livedoid lesions on the outside of the left ankle as well as purpuric lesions on the pads of the toes on the left foot. Laboratory tests revealed nothing of note. Skin biopsies of the livedoid circumference of the lesion showed arteriolar emboli of an amorphous material within the dermis obliterating the arteriolar lumen. The clinical appearance of skin lesions after mesotherapy led us to a diagnosis of Nicolau livedoid dermatitis. Discussion Nicolau dermatitis is a rare skin complication described as occurring mainly as a result of intramuscular injections. The reported case is special because it comprises Nicolau dermatitis arising out of a session of mesotherapy employing an intradermal injection. However, there are only very few cases in which subcutaneous injections have induced Nicolau dermatitis. The pathophysiology is not well known, but several mechanisms are involved: arterial ischaemia by vasospasm or thrombosis. In this case, the semiotic appearance of the lesions and histological analysis militate in favour of accidental injection of a skin product into an arteriole, resulting in obliteration of the latter. Mesotherapy can induce Nicolau dermatitis. © 2013 Elsevier Masson SAS. Tous droits réservés.
Mangal S., Kumaran M.S.
Mesotherapy for local fat reduction
Jayasinghe S., Guillot T., Bissoon L., Greenway F.
*Obesity Reviews (2013) 14:10 (780-791)*. Date of Publication: October 2013

Mesotherapy, which is the injection of substances locally into mesodermally derived subcutaneous tissue, developed from empirical observations of a French physician in the 1950s. Although popular in Europe for many medical purposes, it is used for local cosmetic fat reduction in the United States. This paper reviews manuscripts indexed in PubMed/MEDLINE under 'mesotherapy', which pertains to local fat reduction. The history of lipolytic mesotherapy, the physiology of body fat distribution, the mechanism of action of different lipolytic stimulators and their increased efficacy in combination are reviewed. Mesotherapy falls into two categories. Lipolytic mesotherapy using lipolytic stimulators requires more frequent treatments as the fat cells are not destroyed and can refill over time. Ablative mesotherapy destroys fat cells with a detergent, causes inflammation and scarring from the fat necrosis, but requires fewer treatments. The historic and empiric mixing of sodium channel blocking local anaesthetics in mesotherapy solutions inhibits the intended lipolysis. Major mesotherapy safety concerns include injection site infections from poor sterile technique. Cosmetic mesotherapy directs the area from which fat is lost to improve self-image. Studies were of relatively small number, many with limited sample sizes. Future research should be directed towards achieving a Food and Drug Administration indication rather than continuing expansion of off-label use. © 2013 International Association for the Study of Obesity.
Calcified shoulder's supra-spinatus tendinitis treatment by mesotherapy by calcium chelating agent

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Over a 7 months period, from January 2006 to July 2006, the study reviewed 35 patients with calcified shoulder's supra-spinatus tendinitis treated by calcium chelating agent injected via mesotherapy. Median age is 47.4, mainly males (20 vs. 15 females), 18 right upper extremities, ten left upper extremities and 7 bilateral upper extremities. Age of calcified lesions were estimated at 8.5 months. Most patients completed the five mesotherapy sessions (average number of sessions is 4.5). Study design included five mesotherapy sessions (D1, D8, D15, D29, D43). Patients were examined at D1, D29 or D43. Evaluation criteria were; digital pressure at calcified area, digital pressure of supra-spinatus tendon, active abduction of affected upper extremity, active antepulsion at 60 degrees, active maximum internal rotation of affected upper extremity against resistance.

Findings.-Eva went from 7.52 to 2.43, a 68% improvement. Pain at palpation and pain during muscular testing also improved by 69% and 65% respectively. Fifteen patients recovered normal shoulder activity after rehab/physical therapy. In 22 cases, follow up radiological studies were obtained at D120 (4 month); most cases (15) showing complete disappearance of calcified lesions; five cases with 50% reduction of calcified lesions; two cases with unchanged findings. This treatment was well tolerated either general or locally. Overall satisfaction was reported by most patients (77%) with 74% improvement of quality of life. Eight percent (three cases) with complete treatment failure. This treatment with this chelating agent may be offered as first line therapy in view of those reported findings and easy usage.
This study is about 54 cases of tendinitis of supra-spinatus with limitation of the abduction in an impingement syndrome of the shoulder treated by mesotherapy from July 2007 to July 2008. The clinical exam enables to establish the diagnostic that will be confirmed by scan. The treatment will most of the time be done by mix technique (33 cases) en IDP by technique of point by point (0.1 ml by point AINS + lidocaïne + calcitonine) in front of the trochiterius and in IED by epidermic mesotherapy (myorelaxant + lidocaïne) in front of the muscle supra-spinatus. The treatment is over four sessions: D1, D8, D15, D30. The evaluation is at D1 and D30. The assessment criteria are the following: AVS, palpation by digitalis pressure of the tendon of supra-spinatus, isometric testing in abduction, rolling of the muscle, magnitude of the abduction et life quality (valued from 0 to 3).

The average age is 38.6-years-old, 34 men, 20 women. The age of the injuries is 6.4 months, 34 sportsmen for 20 non-sportsmen. Results-The AVS has gone from 7.22 to 0.83. The pain with the palpation has gone from 2.55 to 0.3, the pain during the muscular testing from 2.77 to 0.24, the magnitude of the abduction from 1.74 to 0,185 and the quality of life from 2.7 to 0.2. Eighteen patients (33%) have benefited from some rehabilitation to get their shoulder back to strictly normal. The treatment has been tolerated very well, locally or generally. The patients have been globally satisfied in 85% of cases. Seeing those results but also because of its harmlessness and its low cost, this treatment by mesotherapy can be proposed in first intention.
This prospective study is over 14 cases of teres minor insertion tendinitis on the tubercule major tubercule of the shoulder, rebellious to usual treatments with a group of seven cases treated by rehabilitation alone and a group of 7 treated by rehabilitation + mesotherapy. The study was done from September 2007 to March 2008 with ten men and four women. The positive diagnostic is about the questioning that finds a chronic pain of the stump of the shoulder, the clinical exam shows painful abduction and sideways rotation, a pain at the end of the throwing gesture, a pain at the palpation of the «insertion» and a gate sign often positive. The evaluation of the algorithmmal fonctionnal status of the patient will be done by the Constant scale at D1 and D30. Procedure of rehabilitation: association of deep transversis massages and of rolling palpation. Procedure of mesotherapy: three sessions at D1, D8, D15 and if needed at D30 during the evaluation. On IDP: procaine 2% + piroxicam + calcitonine (100UI)). On IED: pidolate de magnésium + thiocolchicoside. The Constant scale is way in favour of the group of rehabilitation + mesotherapy with a degree of signification whereas the group with rehabilitation only presents a degree 0.005 < P < 0.10. It is the same for the feel and for the benefit of the arm movement. No unwanted or side effects have been found in the rehabilitation + mesotherapy group whereas in the group of rehabilitation only, all the patients have had important pains fading towards the end of the sessions. Seeing those results but also because of its harmlessness and its low cost, this treatment by mesotherapy can be proposed in first intention.
Data demonstrating the efficacy of hyaluronic acid (HA)-based mesotherapy for skin rejuvenation are scarce. The aim of the study is to assess the efficacy of non-reticulated HA-based mesotherapy on skin elasticity and complexion radiance. 55 women with cutaneous ageing signs included in the Full Analysis Set (FAS) population blindly received intradermal micro-injections (50 × 0.02 mL) of non-cross-linked HA filler with mannitol (Glytone 1, HA concentration: 14 mg/g) in one cheek and saline physiological solution in the other according to hemifacial randomisation in 3 monthly sessions. Elasticity (E1 and E2 stiffness parameters) and dermis thickness were measured by cutometry and 20 MHz echography, before (D0) treatment and 1 (1M) and 3 months (3M) after the last injection. A trained panel blindly scored skin complexion radiance from standardised and calibrated photographs, using 100 mm analogue scales. In the FAS population, only HA filler significantly decreased E1 at 1M (-10.9 %, p = 0.026) and 3M (-10.5 %, p = 0.035) compared with D0; its effect versus the control tended to be more persistent, with a difference between treatments at 3M close to significance (p = 0.063). E2 also decreased at 1M (-8.2 %, p = 0.027 in the per protocol population, n = 53) and 3M after HA-treatment only. Dermis thickness significantly increased after HA-treatment at 1M (+3.4 %, p = 0.028) and 3M (+4 %, p = 0.008), and after control-treatment at 1M only (+2.5 %, p = 0.015). The HA filler significantly improved complexion radiance at 3M compared with the control (p = 0.012) and for 51 % of subjects, their skin status. Non-reticulated HA-based mesotherapy significantly and sustainably improves skin elasticity and complexion radiance. © 2013 The Author(s).
Follow up in the physical medicine and rehabilitation consult of patients with rheumatoid arthritis using a biological agent
Silva M., Guerreiro Castro S., Magalhães F.G., Antunes M., Patarata E., Gruner H., Moraes-Fontes M.F., Ferreira A., Riso N.
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Objective: Rheumatoid arthritis (RA) is a chronic inflammatory disease, with multisystemic involvement, and its treatment requires a multidisciplinary approach, including rehabilitation therapies, specially in active patients, with the goal of slowing the disease's progression and improve the patients' performance. Methods: The authors did a retrospective study of the patients with RA using a biological response modifier (BRM), followed in the Autoimmune Diseases Unit (AIDU). Two groups were considered: group A with patients not referred to the Physical Medicine and Rehabilitation (PMR) consult and group B with patients referred to the PMR consult. The 2 groups were analysed according to gender, age, DAS 28 at the time of the first appointment, positive Rheumatoid Factor (RF) and anti-CCP antibodies, length of time between the first appointment in the AIDU and the first appointment in the PMR and types of rehabilitation performed [occupational therapy (OT), mesotherapy, hydromassage, pool, or others]. Results: Of the n=57 patients in the AIDU, n=43 (75.4%) were female, with an average age of 56.5 years, DAS 28 5.9 at admission, n=44 patients had a positive RF and n=44 anti-CCP antibodies. In group A, of the n=30 patients (50.8%), n=21 (70%) were female, with an average age of 55.57 years, DAS 28 5.88, n=19 patients with a positive FR and n=18 patients anti-CCP antibodies. In group B, of the n=27 patients, n=22 (77.8%) were female, with an average age of 57.71 years, DAS 28 6.01, n=20 patients had a positive RF and n=21 patients anti-CCP antibodies. The length of time between the first appointment in the AIDU and in the PMR was 3.5 years. Regarding the rehabilitation therapy, n=18 patients (31.2%) underwent combined rehabilitation, which included always OT, and n=9 patients did just one type of treatment, of which n=6 patients had OT and n=3 had mesotherapy. Globally, n=22 patients (n=38.6%) underwent OT, n=11 (19.3%) mesotherapy, n=8 (14%) hydromassage, n=7 (12.3%) pool, n=7 other therapies. Discussion: In our sample, about half of the patients are followed in PMR, starting about 6 months after the first appointment. These patients are older and with a higher DAS 28 at the time of the first appointment. Since the rehabilitation treatment is associated with the pharmacological to improve patients' performance, OT is the most prescribed therapy, followed by mesotherapy, because they are the ones which show more advantages in this age group.
This epidemiological study is over 51 cases of pubalgia: pubic tendinomyalgia and insertions tenoperiositis concerning the adductors, the great rights, the oblics and the transvers on subject aged from 18 to 50. The evaluation was made on the AVS at rest and after efforts (50 exercises of pedalo with the subject laying down his back), on the pain at the digital pressure palpation on the pubic tendinosis insertions, on the pubic symphysis, on the inguinal ring, on the mobilisation of the pubic symphysis, on the pain of isometric testing of muscles and at the stretching (valuation from 1 to 4). We count 49 men, two women, all sportsmen, average age: 29.5 years old, age of the injuries: 4.5 months. Treatment.- Acute time: lidocaine 1% + piroxicam + calcitonine 100 UI on the muscles insertions. Lidocaine 1% + thioolchicoside on the rest of muscles. Chronic time: vit C + vit E + calcitonine 100 UI on the muscles insertions. Procaine 2% thiocolchicoside + magnésium on the rest of muscles. Sessions D1, D8, D15, D30, D45, D60, D75 with an assessment at D90 (in average 4.49 sessions). Results.- The AVS has gone from 3.98 to 0.9 at rest and 7.25 to 1.87 in effort. All the parameters of the evaluation have improved very sensibly by the treatment. The local and general tolerance has been very good. We notice almost 75% of good results, 14% average results and 11% of failures. Seeing those results but also because of its harmlessness and its low cost, this treatment by mesotherapy can be proposed in first intention.
Introduction.- Lower limb amputee patients can suffer from residual limb hyperhidrosis with functional impairment treated with Onabotulinumtoxin A intradermal injections which may be painful. To reduce pain, we propose to use intraepidermal injections (a quite painless mesotherapy technique). We report the case of a transtibial amputee who benefited from the two techniques, which we compare. Observation.- A 37-year-old transtibial amputated patient presented a severe hyperhidrosis requiring to take off prosthesis to dry it. - first technique: intradermal injections (100 units Onabotulinumtoxin A diluted in 4 mL of saline solution, distributed on the zone covered by the sleeve, in 40 points); - second technique, 10 months later, because of hyperhidrosis relapse with functional impairment: intraepidermal injection (same protocol). The D0 and M2 evaluation for each injection shows: - «VAS pain during injection»: 80/100 with intradermal injections; 8/100 with intraepidermal injection; «VAS quantity of sweat»: declining by 83% with intradermal injections (VAS: 15 at M2), by 37% with intraepidermal injection (VAS: 25 to M2); «VAS discomfort associated with sweat»: declining by 89% with intradermal injections (VAS: 10 at M2), by 44% with intraepidermal injection (VAS: 25 at M2) ; with both techniques: no more need to take off prosthesis to dry it, Subjective Improvement Felt: 60%. Discussion.- The intraepidermal technique seems interesting, bringing a clear decrease of pain during injections and satisfactory functional results. The improvement percentage of hyperhidrosis evaluation criteria seems less important with the intraepidermal technique. But, during this injection (unlike during the intradermal injections), the patient applied local aluminium salts and possibly still had benefits from a residual effect of the preceding Onabotulinumtoxin A treatment.
Alopecia areata (AA) is a non-scarring, autoimmune hair loss on the scalp, and/or body. Etiology and pathogenesis are still unknown. The most common site affected is the scalp in the form of solitary or multiple patches of alopecia. Histopathology is characterized by an increased number of telogen follicles and presence of inflammatory lymphocytic infiltrate in the peribulbar region. Corticosteroids are the most popular drugs for the treatment of this disease. This review precisely outlines the etiologic and pathogenic mechanisms, clinical features, diagnosis and management of alopecia areata.
Intradermal therapy (Mesotherapy) with lymdiaral in chronic venous insufficiency and associated fibrosclerotic edema damage: A pilot study
Maggiori E., Bartoletti E., Mammucari M.

Objectives: Chronic venous insufficiency (CVI) induces alterations that cause fibrosclerotic edema of the subcutaneous tissue. This study examined the effects of a complex naturopathic compound with vasoactive and antiedema activities (Lymdiaral®) administered intradermally. Patients: 40 patients with signs and symptoms of CVI and associated fibrosclerotic edema of the subcutaneous tissue. Outcome measures: Efficacy was assessed by using clinical investigation, subjective and objective measures, and ultrasonography performed at baseline and after treatment. Results: Thirty-four patients completed the study; 6 of the original 40 (15%) had stopped for reasons unrelated to study treatment. The treatment was well tolerated. Fifteen adverse reactions were reported among a total of 378 doses administered (3.97%). None of these reactions were severe or required discontinuation of treatment. Subjective symptoms and objective measures improved, and ultrasonography showed statistically significant changes in hypodermal thickness of the medial aspect of the knees. Conclusions: Its open-label design and small sample size notwithstanding, this study indicates that intradermal therapy, according to the recommendation of the Italian Society of Mesotherapy, may provide a valuable contribution to the treatment of CVI and related fibrosclerotic edema of the subcutaneous tissue by prolonging the local effect of the pharmacologically active compounds. Comparative studies are needed to identify the broader clinical and economic benefits of local therapy compared with other systemic therapies. © Copyright 2013, Mary Ann Liebert, Inc. 2013.
This article is an update of the currently available options for medical therapies to treat androgenetic alopecia in men and women. Emerging novel therapeutic modalities with potential for treating these patients are discussed. Because androgenetic alopecia is progressive in nature, stabilization of the process using medical therapy is an important adjunct to any surgical hair-restoration plan. © 2013 Elsevier Inc.
In slimming therapy in plastic and cosmetic surgery, treatment based on internal medicine rather than surgical treatments is a viable option. Such surgical treatments, which include liposuction and plastic surgery of the abdominal wall, are contour plasty or partial-slimming techniques, and are not intended for the purpose of weight loss. For reduction of body weight and visceral fat as well as relief from lifestyle-related diseases, this article describes the application of ortho-molecular medicine techniques that center on the use of mineral fasting. During this treatment, mineral fasting and nutrition therapy are conducted while monitoring of nutritional status and body tissue analysis based on blood biochemical testing is periodically performed. During the slimming therapy described here, metabolism becomes hypercatabolized, allowing partial slimming by mesotherapy to become very effective. By applying this slimming therapy in conjunction with surgical therapy, weight loss treatment can be administered with less risk by reducing the necessity to conduct unnecessary liposuction and plastic surgery of the abdominal wall. © 2013 International Society of Personalized Medicine.
Background: Mesotherapy has become a new method for the treatment of different types of alopecia. However, there is a paucity of data in the literature about its efficacy and side effects. In this retrospective study, safety, efficacy, and feasibility of platelet-rich plasma (PRP) injections were assessed. Methods: Between October 2009 and October 2010, 42 patients (8 women and 34 men) with hair loss or androgenic alopecia were included in this study. Before each session, the hair pull test was performed three times. A total volume of 8-12 cc was injected by using 32 or 30.5 G needles. The treatment was repeated five times over a period of 2 months. Outcome measures were assessed after 3 months by clinical examination, macroscopic photos, pull clinical test, and the patient's overall satisfaction. Results: Before treatment, 90.5% of our patients had a positive pull test with a mean number of eight hairs. After the third session, the pull test was negative in all patients with an average number of three hairs. Global pictures showed a significant improvement in hair volume and quality, which was confirmed by a high overall patient satisfaction. The results were even more obvious in patients who suffered from alopecia for less than 2 years. Poorer results were found in patients with marked alopecia type VI-VII according Norwood classification in men. Conclusions: PRP injections are simple and efficient, have minimal morbidity with a low cost-to-benefit ratio and can be regarded a valuable alternative for the treatment of alopecia. Level of Evidence: Level IV, therapeutic study. © 2013 Springer-Verlag Berlin Heidelberg.
The history of beauty is as old as mankind itself - throughout history people have tried to improve their attractiveness and to enhance their beauty. The technical basis for many of nowadays procedures like lipoplasty, breast augmentation or rhinoplasty was thereby initiated more than a hundred years ago and evolved to the modern standards of today. The aim of this article is to recall the early days of aesthetic medicine and show the swift progress up to the highly specialized medical discipline of our modern time. Combining the past, present and future of aesthetic medicine, allows to incorporate this perspective and ultimately to delivery better patient care. Copyright © 2013 Journal of Drugs in Dermatology.
Background Treatment of female pattern hair loss (FPHL) is frustrating for both patients and doctors. Mesotherapy is a novel treatment for hair fall and its efficacy in FPHL has not been evaluated. Objective Evaluation of the efficacy and safety of mesotherapy using dutasteride-containing preparation in treatment of FPHL. Methods This study included 126 female patients with FPHL. They were classified into two groups; group I (86 patients) injected with dutasteride-containing preparation and group II (40 control patients) injected with saline. Patients received 12 sessions and were evaluated at the 18th week by: photographic assessment, hair pull test, hair diameter and patient self-assessment. Ultrastructural evaluation was done for three patients. Results After mesotherapy with dutasteride-containing preparation, photographic improvement occurred in 62.8% of patients compared with 17.5% in control group (P < 0.05), mean number of epilated hairs was significantly decreased (P < 0.05), mean hair diameter was significantly increased (P < 0.05). Patient self-assessment showed statistically significant improvement compared with the controls (P < 0.05). There was a negative correlation between degree of improvement and duration of FPHL (P < 0.05). Side effects were minimal with no statistically significant difference between the two groups (P > 0.05). Ultrastructural examination of pretreated hairs revealed absent cuticle in one patient and focal destruction of the cuticle in the second patient, which reappeared in both after therapy. Conclusion We concluded that mesotherapy with dutasteride-containing preparation was effective, tolerable and minimally invasive treatment modality in FPHL with better response for shorter duration of the disease. © 2012 The Authors. Journal of the European Academy of Dermatology and Venereology © 2012 European Academy of Dermatology and Venereology.
Mesotherapy is a minimally invasive technique based on the introduction of pharmacologically active compounds in the surface layer of the skin. The intradermal route has been known for many years and it has the aim of reducing the dose and slowing the diffusion into the underlying tissues. Mesotherapy requires a clinical diagnosis and informed consent. Patient should be well informed about potential benefits, limitations, and risks (even mild). The process of doctor-patient interaction in mesotherapy is an example of compliance with the basic concept: "first do no harm" and, at the same time, the advantage for the patient to conclude a "therapeutic alliance". We propose a draft form to facilitate the decision-making process.
Pretibial myxedema (PTM) is a rare extrathyroidal manifestation of Graves' disease that requires treatment when the clinical picture is markedly evident. In addition to topical treatment with steroid ointments, there have been previous reports of subcutaneous injections of steroids. This procedure may cause nodular degeneration of the skin due to fat atrophy when standard needles are used. In the present study, we have tried a novel modality of treatment of PTM by injecting a solution of dexamethasone in the subcutaneous tissue using needles employed for mesotherapy. These needles are ≤4 mm long and deliver the medication within the dermis or the first layer of the subcutaneous fat. We have treated five patients, four with diffuse and one with elephantiasic PTM. We utilized multiple injections of a solution of dexamethasone, lidocaine, and saline in the PTM plaque and in the pretibial area, both in the PTM plaque and in the area surrounding the lesions, once a week for three consecutive weeks. Two patients with a more severe form of PTM underwent another two cycles four to six weeks after initial treatment. Patients were studied before and after treatment by clinical assessment and ultrasound of the pretibial skin. The treatment was well-tolerated, with only moderate pain upon injection of the solution. One month after treatment, all patients showed improvement of PTM at clinical assessment and a reduction of the thickness of the lesions at ultrasound of ~15%, involving mostly the dermis. Moreover, all patients reported amelioration of the leg appearance. The present study, although preliminary, shows that intralesion steroid injection with mesotherapy needles in PTM is effective and well tolerated, and does not cause undesired long-term modifications of the skin. More studies are warranted to standardize such treatment in larger groups of patients. © 2013, Mary Ann Liebert, Inc.
CE-PTG-EC was recorded in three subjects with clinically severe acute hair loss. All three had medical history, extensive blood sampling, and two 4-mm punch scalp biopsies (double-check reports with second opinion). A female nurse showed no improvement during "mesotherapy" and we unravelled 0% anagen predicting total hair loss within the next 3 months. Biopsy confirmed clinical hypothesis of alopecia areata (AA). An Indonesian female with a history of severe weight loss, chronic cough, and moderate chronic fever had 0% anagen on CE-PTG-EC pointing to total hair loss in the near future. Global health status with severe anemia and bronchial mycotic contamination appeared to be related to an active HIV infection. The biopsy reported "acute telogen effluvium". Follow-up indicated total hair loss at 3 months with satisfactory scalp hair regrowth as observed at 6 months after initial diagnosis in the absence of the usual treatments used for AA. A 12-year-old boy experienced sudden diffuse hair loss during the period of school tests. CE-PTG-EC showed 0% anagen. Biopsy reported aspects compatible with "trichotillomania". Thorough explanation of the natural course of the process, including total hair loss in the next 3 months, was understood and accepted by the young patient. Daily application of topical steroid lotion resulted in total "vellus-like" hair regrowth by the fifth month. Together with the clinical course favoring the diagnosis of AA totalis, the CE-PTG-EC was against the histopathological diagnosis of trichotillomania. Information generated by the CE-PTG-EC and histopathological diagnosis may be "convergent" (cases 1 and 2) or "divergent" (case 3). The initial diagnosis may be modified according to the clinical course and the follow-up, but CE-PTGEC objectivates the seriousness of the hair loss process such that the patients can adjust to a rapidly changing and dramatic situation.
Background: Mesotherapy is a procedure that involves the injection of substances into the dermis and subcutaneous tissue. This technique is normally used in the treatment of various medical conditions and cosmetic fat dissolution. Mesotherapy has been surrounded by controversy pertaining to efficacy and has been associated with localized complications and different adverse effects. Case report: A 31-year-old woman, striptease dancer, had painful not suppurative nodules located at the points where mesotherapy with Carnicor (L-carnitine) had been applied 8 months ago. Culture was performed from biopsy tissue, and resulted negative for fungi, bacteria, and mycobacteria. Laboratory tests, including complete blood cell count, chemistry and mantoux test, revealed no abnormality, and there was no significant medical or familiar history of interest. The pathologic analysis of the biopsy revealed necrotic granuloma formation without bacterial structures. Treatment consisted on intralesional injection of triamcinolone acetonide 2.5 mg/mL administered one time a month for 3 months. After 30 months of follow-up, no relapse signs were achieved. Discussion: Mesotherapy is known to produce both the physical and chemical stimulation of dermis and subcutaneous tissue. A wide variety of mesotherapy products are now available worldwide. The main drugs used are nonsteroidal antiinflammatory drugs, muscle relaxants, vasodilators, lipolytics such as amino-phylline and biologics (including vitamins, minerals, and plant extracts). The L-carnitina granuloma is a non well described cause of this rare situation. We report this case because it is thought that the adverse effects of mesotherapy may increase because it has been popular worldwide. Patients should be informed of these possible complications.
The use of autologous platelet-rich plasma (PRP) has attracted attention in various medical fields, including plastic and orthopedic surgery, dentistry and most recently dermatology, for its ability to promote wound healing. Data published in peer-reviewed journals have demonstrated dermatologic applications in areas ranging from acne scarring to lower extremity wound healing or fat transplantation. In 2006, Uebel et al documented better graft survival in male patients whose hair graft were stored in platelet-rich plasma 15 minutes before implantation. Recently, in 2012 Li et al studied the effect of PRP on hair growth using in vivo and in vitro models supporting for possible clinical application of autologous PRP and its secretory factors for promotion of hair growth. The aim of our study was to determine the effectiveness of autologous platelet-rich plasma in mesotherapy in patients with androgenetic alopecia. We collected 31 patients with androgenetic alopecia whose treatment did not include autologous platelet-rich plasma mesotherapy (group 0) and 31 patients sex-and age-matched (group 1) in which autologous platelet-rich plasma mesotherapy was applied. Trichoscan was performed in both groups at a basal visit and 12months visit where data including the hair number, hair density per square centimetre, anagen and telogen percentage and percentage of terminal and miniaturized hair were analyzed. Patients treated with autologous platelet-rich plasma mesotherapy showed statistically higher hair density per square centimetre (P = .048) and a borderline statistically difference in hair number than in controls (P = .053). The statistical analysis showed a significant correlation between male sex and the hair density per square centimeter. In conclusion, the present study support for possible clinical application of autologous PRP in patients presenting with androgenetic alopecia.
Aesthetic practice in Nepal
Karn D.
Kathmandu University Medical Journal (2013) 11:42 (109). Date of Publication: April - June 2013
This study has demonstrated the effectiveness of a 2% procaine solution given with a view to improving metabolic parameters of aging, such as the body weight and composition along with the lipid profile in the patients varying in age from 30 years to 75 years. The study involved 95 patients treated with a 2% procaine solution that was administered by different methods (electrophoresis and mesotherapy) into several points of the collar region and upper back. The control group was comprised of the patients who received placebo by means of galvanization and mesotherapy. The results of the study indicate that the introduction of a 2% procaine solution in the treatment of metabolic disorders effectively improves selected metabolic characteristics of ageing and thereby helps to reduce the biological age in comparison with the control patients treated with placebo.
Aesthetic medicine has become increasingly popular in the last two decades. The same trend has occurred in dermatology. Aesthetic dermatology prefers minimally invasive procedures. Nevertheless, even these procedures are not free of possible adverse effects. The spectrum of possible adverse effects, their management and prevention are discussed for four popular procedures in aesthetic dermatology, i.e. chemical peels, mesotherapy, botulinum toxin, and dermal fillers. Aesthetic procedures should only be performed by well-educated, well-trained medical doctors with an excellent medical background, never by lay persons. © 2013 Springer-Verlag Berlin Heidelberg.
Commentary on: Metabolic and structural effects of phosphatidylcholine and deoxycholate injections on subcutaneous fat: A randomized, controlled trial
Brown S.A.
A pilot study on the use of injection lipolysis in visceral adipose tissues
Noreldin A.A., Abd Elhamid A.M., Hashem A.M., Afifi A.M.

Background: Intraperitoneal fat, also known as visceral adipose tissue (VAT), poses significant metabolic risks. Reduction of this fat is functionally and aesthetically desirable. Since surgical reduction has serious risks, a noninvasive method for reduction of this fat would have important clinical benefits. Objective: The authors evaluate the reduction in VAT in an animal model using injection lipolysis. Methods: Phosphatidylcholine was injected in half of the omentum of 16 dogs (weight 30-40 kg) by surgical laparotomy. The dogs' vital signs were followed postoperatively. A second laparotomy was performed at 2 weeks (n = 10), 4 weeks (n = 4), or 6 weeks (n = 2). Reduction of fat in the injected side was assessed by comparing with the control side. Specimens of the injected and the control sides were examined microscopically. Intraperitoneal cultures were also obtained. Results: There was a major reduction in the amount of fat in all 16 dogs. No intraperitoneal abscesses, collections, or adhesions developed, and there was no injury to any intra-abdominal organs. Microscopic examination showed significant fat loss and lysis of fat cells with cellular infiltrate formed of predominantly macrophages, with fibrosis developing in the 6-week specimens. No bacterial or fungal growth was observed on the cultures. The dogs' vital signs showed no significant variation from the preoperative baseline. Conclusions: Injection lipolysis is effective and safe in reducing VAT in dogs. Further studies are needed to prove its efficacy and safety in humans and refine its indications and method of injection. © 2013 The American Society for Aesthetic Plastic Surgery, Inc.
This International Society of Lymphology (ISL) Consensus Document is the current revision of the 1995 Document for the evaluation and management of peripheral lymphedema (1) for discussion at the XXIV International Congress of Lymphology. It is based upon modifications: [A] suggested and published following the 1997 XVI International Congress of Lymphology (ICL) in Madrid, Spain (2) discussed at the 1999 XVII ICL in Chennai, India (3) and considered/confirmed at the 2000 (ISL) Executive Committee meeting in Hinterzarten, Germany (4); [B] derived from integration of discussions and written comments obtained during and following the 2001 XVIII ICL in Genoa, Italy as modified at the 2003 ISL Executive Committee meeting in Cordoba, Argentina (5); [C] suggested from comments, criticisms, and rebuttals as published in the December 2004 issue of Lymphology (6); [D] discussed in both the 2005 XX ICL in Salvador, Brazil and the 2007 XXI ICL in Shanghai, China and modified at the 2008 Executive Committee Meeting in Naples, Italy (7,8); and [E] modified from discussions and written comments from the 2009 XXII ICL in Sydney, Australia, the 2011 XXIII ICL in Malmo, Sweden and 2012 Executive Committee Meetings. The document attempts to amalgamate the broad spectrum of protocols advocated worldwide for the diagnosis and treatment of peripheral lymphedema into a coordinated proclamation representing a "Consensus" of the international community. The document is not meant to override individual clinical considerations for problematic patients nor to stifle progress. It is also not meant to be a legal formulation from which variations define medical malpractice. The Society understands that in some clinics the method of treatment derives from national standards while in others access to medical equipment and supplies is limited, and therefore the suggested treatments are impractical. Adaptability and inclusiveness does come at the price that members can rightly be critical of what they see as vagueness or imprecision in definitions, qualifiers in the choice of words (e.g., the use of "may... perhaps... unclear", etc.) and mention (albeit without endorsement) of treatment options supported by limited hard data. Most members are frustrated by the reality that NO treatment method has really undergone a satisfactory meta-analysis (let alone rigorous, randomized, stratified, long-term, controlled study). With this understanding, the absence of definitive answers and optimally conducted clinical trials, and with emerging technologies and new approaches and discoveries on the horizon, some degree of uncertainty, ambiguity, and flexibility along with dissatisfaction with current lymphedema evaluation and management is appropriate and to be expected. We continue to struggle to keep the document concise while balancing the need for depth and details. With these considerations in mind, we believe that this latest version presents a Consensus that embraces the entire ISL membership, rises above national standards, identifies and stimulates promising areas for future research and represents the best judgment of the ISL membership on how to approach patients with peripheral lymphedema as of 2013. Therefore the document has been, and should continue to be, challenged and debated in the pages of Lymphology (e.g., as Letters to the Editor), and ideally will remain a continued focal point for robust discussion at local, national and international conferences in lymphology and related disciplines. We further anticipate as experience evolves and new ideas and technologies emerge that this "living document" will undergo further periodic revision and refinement as the practice and theories of medicine and specifically lymphology change and advance.
Introduction: It is well known that, due to the presence of growth factors, platelet-rich plasma (PRP), is able to produce histological changes in the dermis that reproduce the process of biological tissue repair without previous damage. Biostimulation with PRP has been used clinically for skin rejuvenation of the face and neck. Skin ultrasound can be helpful to evaluate several aspects of skin aging. This study was designed to perform an objective evaluation of the beneficial effects of this treatment on skin aging. Material and methods: Autologus PRP was injected by mesotherapy in 10 women, aged between 45 and 60 years, in the face, neck and cleavage. Three-monthly sessions were carried out and the final results were measured 1 month after the final treatment. Pictures were taken and skin ultrasound was performed of the same area of the face before and after the treatment. Results: All patients noted an improvement in their skin quality: the skin was brighter, more hydrated, more compact and plumper. An increase of dermal thickness and a decrease in subepidermic low echogenic band (SLEB) was observed on skin ultrasound. However, this improvement was not statistically significant, probably due to the small number of patients. Conclusions: Biotestimulation with autologous PRP improved skin quality and reversed ultrasound signs of skin aging. More studies are required to confirm these results. © 2012 Elsevier España, S.L. All rights reserved.
RECORD 179

Massive subcutaneous emphysema after carbon dioxide mesotherapy.
Calonge W.M., Lesbros-Pantoflickova D., Hodina M., Elias B.

The authors report the observation of a 43-year-old woman with severe pain on her right upper abdominal quadrant. Differential diagnoses included acute cholecystitis, spontaneous pneumothorax, perforated appendicitis and a recidive of renal calculus. CT-scan showed a huge subdermal gas bubble along her right flank and anterior abdominal wall up to the submammary fold. Only at this point, the patient admitted to have undergone a carboxytherapy procedure on both thighs one day before onset of pain in a paramedical facility. As some of the injection trajects were still patent on CT-scan, she received prophylactic antibiotic coverage. Though there was a complete resorption of gas after 10 days, dysesthesias and muscle contracture persisted for 3 weeks. To the authors' knowledge this migration and coalescence of injected gas in a single bubble has not been previously reported. This journal requires that authors assign a level of evidence to each article. For a full description of these Evidence-Based Medicine ratings, please refer to the Table of Contents or the online Instructions to Authors http://www.springer.com/00266 .
We often prescribe drugs in large quantities, it may help to relieve, but it also triggers intolerances, allergies or even digestive or skin problems. This is one reason, perhaps the main, to explore elsewhere. The reader will discover, through this article, mesotherapy; a new and simple therapeutic that aims to approximate the location of the therapeutic to the place of the pathology for greater efficiency. To test the effectiveness of this technique in dentistry, we treated by mesotherapy, 16 patients with phenomena of algo-inflammation, and as witnesses, 21 patients with the same symptoms and same diagnosis but conventionally treated by drugs prescriptions. A regression of the inflammation and an improvement in the painful condition were observed at a shorter time among patients treated with mesotherapy; it would be interesting, by evaluating the ratio "quality/cost-effectiveness and safety", to encourage the practice of mesotherapy in dentistry.
A new minimally invasive mesotherapy technique for facial rejuvenation
Savoia A., Landi S., Baldi A.
Dermatology and Therapy (2013) 3:1 (83-93). Date of Publication: 2013

Introduction: This study describes a pivotal clinical trial of a new minimally invasive mesotherapy technique for facial rejuvenation. Methods: The authors utilized two formulations: formulation A with hyaluronic acid, vitamins, amino acids, minerals, coenzymes, and antioxidant substances; formulation B with hyaluronic acid and idebenone. Fifty participants were enrolled in the study and divided in two groups. Group 1 (50-65 years) treated with formulation A. Group 2 (35-50 years) treated with formulation B. The groups underwent four sessions of mesotherapy involving multiple injections. Treatment was conducted at 15 day intervals. All participants had pre- and posttreatment photographs. Punch biopsies were taken from randomly selected participants, baseline and after 6 weeks, and stained for interleukin (IL)-6, IL-1b, matrix metalloproteinase (MMP)-1, and collagen 1. Clinical evaluation was based on the Global Aesthetic Scale (GAIS) and on the Wrinkle Severity Rating Scale (WSRS). Results: The results produced were statistically analyzed and resulted in a significant and long-lasting effect on facial rejuvenation. Evaluation of photographs at 0, 1, and 2 months revealed significant clinical improvement: brightness, texture, and firmness of the skin. The analysis of the GAIS and WSRS scores in the two groups demonstrated statistically significant results after 2 months. The biopsies taken from randomly selected participants at baseline and after 3 months showed a decrease in IL-1b, IL-6, and MMP1, and an increase in collagen 1. Conclusion: The new minimally invasive mesotherapy technique described can improve the clinical appearance of the skin in different age groups. © The Author(s) 2013.
RECORD 182

Mesotherapy: What is new?
Konda D., Thappa D.M.

*Indian Journal of Dermatology, Venereology and Leprology (2013) 79:1 (127-134).* Date of Publication: January-February 2013
Recommendations for the best possible use of botulinum neurotoxin type a (speywood units) for aesthetic applications


Journal of Drugs in Dermatology (2013) 12:1 (80-84). Date of Publication: January 2013

The botulinum neurotoxin (BoNT) product Azzalure (manufactured by Ipsen Biopharm Limited, Wrexham, UK; distributed by Galderma), measured in Speywood units (s.U) has been available since 2009 for temporary improvement in the appearance of moderate to severe glabellar lines. Although we know much about the use of Azzalure for aesthetic indications, some aspects of product use in the clinic still require an update based on continuing and prevailing misconceptions and new clinical data. Therefore, a group of experts experienced with the use of Azzalure convened to formulate the following recommendations: (1) The key to an optimal effect is adequate dosing per injection point. Ten s.U are indicated for strong muscular activity, 5 s.U for medium activity, and approximately 2 s.U for minor activity. (2) The main factor that influences the area of effectiveness is the dosage per injection point. (3) In contrast to former beliefs, we know now that Azzalure works very fast, with some patients reporting initial drug activity after hours. (4) Various volumes can be used for dilution. However, the first choice is the recommended volume, 0.63 mL per vial of 125 s.U. Nevertheless, for clinicians changing products, keeping the volume they are used to might be an option. (5) Clinicians changing products have to be very careful not to confuse the units between different products. (6) In aesthetic BoNT-A usage, the development of antibodies is very rare and is not the common reason for insufficient results. (7) Probably the most common reason when BoNT-A is not working is the absolute or relative underdosage. The present adjunctive recommendations elaborated in an informal expert meeting should help physicians to optimize their treatment with Speywood unit products. Copyright © 2013 Journal of Drugs in Dermatology.
Alopecia areata (AA) is a nonscarring, autoimmune hair loss on the scalp, and/or body. Etiology and pathogenesis are still unknown. The most common site affected is the scalp in the form of solitary or multiple patches of alopecia. Histopathology is characterized by an increased number of telogen follicles and presence of inflammatory lymphocytic infiltrate in the peribulbar region. Corticosteroids are the most popular drugs for the treatment of this disease. This review precisely outlines the etiologic and pathogenic mechanisms, clinical features, diagnosis and management of alopecia areata. © 2013.
RECORD 185
Aesthetic practice in Nepal
Karn D.
Kathmandu University Medical Journal (2013) 11:42 (109). Date of Publication: 2013
Although exact statistics are lacking, body modifications for cosmetic purposes are performed in many countries. The commonest forms include tattooing, body piercing, and breast and facial augmentation using implants or injectable fillers. Liposuction and, to a lesser extent, mesotherapy are also practiced in many countries. Infective complications of these procedures include local infections, transmission of bloodborne pathogens (viral hepatitis and human immunodeficiency virus), and distant infections such as infective endocarditis. Presence of foreign bodies, long healing time of piercing wounds, and poor compliance with infection control practices of some practitioners all predispose the recipients to infections. Apart from the endogenous microbial flora of the skin and mucosae, atypical mycobacteria, especially the rapid growers, have emerged as some of the most important pathogens in such settings. Outbreaks of infection are commonly reported. We hereby review the current knowledge of the topic with specific focus on infections associated with tattooing, body piercing, breast augmentation, mesotherapy, liposuction, and tissue filler injections. Greater awareness among consumers and health-care professionals, as well as more stringent regulations by the health authorities, is essential to minimize the health risks arising from these procedures. © 2012.
Nontuberculous mycobacteria (NTM) may cause skin and soft tissue infections. Frequently, these are related to contaminated environmental sources and/or inappropriate disinfection of instruments (including reuse of single use devices). Reports of skin and soft tissue infections caused by NTM have been described in the setting of cosmetic procedures (especially those performed by unlicensed and/or untrained practitioners). Injection-related NTM infections rarely involve Mycobacterium marinum. We report 2 cases of Mycobacterium marinum facial ulcers after "filler" injections by an unlicensed practitioner at a local "spa." Lack of suspicion of NTM association led to delayed diagnosis and extensive local destruction. We aim to increase education regarding NTM-related infections resulting from cosmetic injections and increase public vigilance regarding the appropriate setting and personnel performing these procedures. Copyright © 2012 by Lippincott Williams & Wilkins.
The identification of regenerative cells in adult human fat has invigorated the field of facial fat grafting. This article reviews traditional and cell-enriched fat grafting methods and the use of fat to create or refine aesthetic results. The rationale and potential applications of adipocyte-derived stem and regenerative cells in facial surgery are also described. The reader is presented with surgical techniques for harvesting and delivering fat grafts to optimize engraftment. Mesotherapy and related applications currently under investigation are also discussed. © 2012 Elsevier Inc.
The impact of Ephedra and green tea combination mesotherapy on localized fat: A randomized-controlled clinical trial

Song M.-Y., Bose S., Kim H.-J., Lee M.-J., Lim C.-Y.

European Journal of Integrative Medicine (2012) 4:3 (e323-e334). Date of Publication: September 2012

Aim of the study: The goal of this study was to evaluate the efficacy of mesotherapy treatment with Ephedra and green tea extract in combination on localized fat of overweight women subjects.

Materials and methods: Twenty-five overweight women, 20-35-years-of-age, body mass index ≥ 23kg/m(2) were randomly assigned into active (Ephedra+green tea, n=13) and placebo (saline, n=12) groups. A total eight herbal or saline mesotherapy administrations were performed into the thighs alternatively in two phases, each one comprising of four consecutive treatments on one thigh on weekly basis. Body composition parameters, circumference and subcutaneous fat area of thighs were measured before and after each phase, in addition to evaluating fasting free fatty acid (FFA) level of blood as well as adverse events of the therapy in volunteers. Results: There were no significant changes in the body weight, BMI, body fat, and subcutaneous fat area of thigh within or between the groups, but the change in thigh circumference within the active group was significantly lower compared to that within the placebo group. The blood FFA level at 1. h after the first herbal therapy was significantly higher than that recorded at other time points of pre- and post-treatment measurements. Conclusions: The herbal mesotherapy treatment produced a significant effect on thigh circumference and fasting-FFA level within the active group. Future studies that compensate for the limitations of this trial are required to fully ascertain the efficacy and safety of the proposed mesotherapy, and a very careful consideration is needed until then. © 2012 Elsevier GmbH.
Despite the financial crisis or any other hardship, there is a strong rule: “as long as you look good, you feel good”. Therefore the cosmetic-aesthetic appearance is very important but the drawbacks of surgery makes the public seek for non-invasive alternatives. Regarding the non-invasive manipulation of body adipose tissue there are so many devices offered and a newer model is released almost every 3 months. THAT should make us wonder. Why? We are confronted with unrealistic expectations, not only the public but also our own bias, based on strong marketing. There is NO to surgery equal non-invasive technique but there are very good non-invasive alternatives. As long as we respect the limitation of these techniques and realize that tissue needs time to regenerate or reconstruct itself, we can establish realistic and good results. Also very true is that one device can not do everything like sculpting, tightening or reducing different tissue components simultaneously. Of course the investments into this field are high but still you need more than one screwdriver to make your toolbox complete. That is why we are in trouble: we want to believe the marketing miracle and we want our expensive device to meet all our expectations. If it doesn't than we look for a new method. Looking back, we have had different techniques that were “hot”. Endermology, ultrasound or cavitation, freezing, heating, injection-lipolysis, Carboxy therapy, Mesotherapy, infrared light and also combinations of the above mentioned. The question is not so much which device is the best but moreover which device serves which problem? How to treat adipose tissue, cellulite or the overweight, respect the body profile and maintain all these results? Obesity needs a diet, skin laxity needs tightening and subcutaneous fat deposits needs a change in quantity or quality of adipocytes and cellulite is more than often a combination of the before mentioned. As an example; radio frequency application in the treatment of cellulite and skin tightening is today's call. The search is for the best way of deliverance. Characteristics like monopolar, bipolar and even tripolar, next to the used frequency and energy, are determining the depth of penetration. But when we look at cellulite there are certain tissue properties that need to be addressed to first. Cellulite is a complex condition that includes lymphatic congestion and calcification in the upper layers. This increases tissue impedance and therefore needs another approach than only applying RF. For skin tightening the stimulation of fibroblasts is imperative and reaching a certain inflammation through heat without damaging tissue asks for strict temperature control. To overcome the barrier in the top layers of the subcutaneous fat tissue, it is necessary to first treat the deeper layers to increase vascular circulation and lymphatic drainage. Low frequencies of ultrasound and radiofrequency penetrate deeper than higher frequencies. By simultaneously using more techniques different tissue levels are treated. The crucial element in non-invasive contouring is time, patience and understanding the physiology of different tissue components to deplete adipocytes, to stimulate collagen generators, to liberated cytokines and to trigger the needed cascade of inflammation to regeneration.
Background: Localised adiposity is not only an aesthetic problem, but a complex pathology - an external expression of numerous metabolic alterations in the tissues (connective matrix and adipose tissue) and the organic (endocrine, circulatory, nervous, immune) systems. Injectable collagen is designed according to the principles of physiological regulative medicine (PRM) to correct physiological imbalances in the tissues. Aim: To examine and evaluate the effects of simultaneous application of two established techniques - acupuncture and mesotherapy with injectable collagen in the treatment of adipose accumulations, located on the knees. Methods: 22 women with excess fat deposits on the knees were recruited, aged 25-51 years, answering the inclusion criteria. They were under observation from October 2011 to March 2012. During this period, 10 sessions of acumesotherapy were carried out once a week, using subcutaneous injection at 5-10- mm depth, needles 27G and injecting 0.3 ml collagen(MD Matrix) in the following acu-points: St-34, St-36, Sp-9, Sp-10, Liv-8 and Bl- 40 and 0.2 ml in St-35. Measurement of the circumference on the level of the popliteal crease was taken before starting the treatment, in the beginning of every next session and at the end of the course. Results: All patients obtained objective reduction of the localised knee fat deposits (decrease in knee circumference) as the repeated measurement showed: two subjects (9.1%) reduction of 1.5 cm, one subject (4.5%) reduction of 2.0 cm, three subjects (13.6%) reduction of 2.5 cm, two subjects (9.1%) reduction of 3.0 cm, six subjects (27.2%) reduction of 3.5 cm, five subjects (22.7%) reduction of 4.0 cm and three subjects (13.6%) reduction of 4.5 cm. Conclusions: This clinical evaluation provides preliminary positive data regarding the effectiveness of acumesotherapy with injectable collagen in women with localised knee adiposity. The significant decrease of knee circumference at an average 3.3 cm allows us to conclude that this combination ensures synergistic results: correction of localised excess fat deposits and restoration of the physiological balance in treated tissue, although controlled studies are needed. Additional benefits may include improved self-confidence and psychological comfort.
The use of homotoxicology in 2500 orthopaedic clinical cases is reported. Drawing on previous experience, the author underlines how conventional medicine too often deals, in particular in orthopaedics, with the somatic factor neglecting the psychic side, forgetting the absolute need for a psychosomatic view of the human being. Homotoxicology, through psycho-neuroendocrine-immunology (P.N.E.I.), overcomes such a dualism, even in an apparently only mechanical specialisation such as orthopaedics. Homotoxicology achieves remarkable therapeutic results in orthopaedics, thanks to the possibility of injecting drugs by means of infiltrations or mesotherapy. The case histories of over 2500 patients are presented, performed on the entire Locomotor Apparatus, showing the technique of approach to patients, the instrumental examinations employed and the drugs administered. Out of over 2500 treatments, more than 81% overall gave positive results, with a maximum of 90% for the cervical rachis and a minimum of less than 65% for the hip joint. Moreover, it is emphasised how homotoxicology, free from toxic side effects, not only allows the achievement of therapeutic results unthinkable until now, but also manages to eliminate a number of surgical operations, with both human and economic advantages. The overview concludes by highlighting that any orthopaedist having an open mind has the chance to obtain successful outcomes rapidly and to prove the effectiveness of homotoxicology.
Efficacy of mesotherapy in facial rejuvenation: A histological and immunohistochemical evaluation
El-Domyati M., El-Ammawi T.S., Moawad O., El-Fakahany H., Medhat W., Mahoney M.G., Uitto J.

Background Mesotherapy, commonly known as "biorejuvenation" or "biorevitalization", is a technique used to rejuvenate the skin by means of a transdermal injection of a multivitamin solution and natural plant extracts that are thought to improve the signs of skin aging. Objectives This prospective study aimed to evaluate the clinical effect of mesotherapy applied to periorbital wrinkles and to quantitatively evaluate histological changes in the skin occurring in response to the same treatment. Methods Six volunteers with Fitzpatrick skin types III or IV and Glogau class I-III wrinkles were subjected to a three-month course of mesotherapy injections in the periocular area (six sessions administered at two-week intervals). Standard photographs and skin biopsies were obtained from the treatment area at baseline, at the end of treatment, and at three months post-treatment. Quantitative evaluation of collagen types I, III, and VII, newly synthesized collagen, total elastin, and tropoelastin was performed using a computerized morphometric analysis. Results The clinical evaluation of volunteers at baseline, end of treatment, and three months post-treatment revealed no significant differences. Histological and immunostaining analysis of collagen types I, III, and VII, newly synthesized collagen, total elastin, and tropoelastin showed no statistically significant changes (P>0.05) after mesotherapy injection. Conclusions The present study indicates that mesotherapy for skin rejuvenation does not result in statistically significant histological changes or clinical improvement. © 2012 The International Society of Dermatology.
Introduction. Caffeine is indicated in the treatment of migraine headaches, as well as neonatal apnea and bradycardia syndrome. In mild poisoning, the most prevalent symptoms are nausea, vomiting, diarrhea, tremor, anxiety and headache. In more severe cases, symptoms consist of heart rhythm abnormalities, myocardial infarction and seizures. Due to its common lipolytic effect, caffeine is used in mesotherapy, usually in combination with drugs of similar effect. We presented a patient with acute iatrogenic caffeine poisoning. Case report. A 51-year-old woman, with preexisting hypertension and hypertensive cardiomyopathy was subjected to cosmetic treatment in order to remove fat by intradermal caffeine injections. During the treatment the patient felt sickness, an urge to vomit, and a pronounced deterioration of general condition. Upon examination, the patient exhibited somnolence, hypotension and nonsustained ventricular tachycardia, which was sufficient evidence for further hospitalization. On admission to the intensive care unit the patient was anxious with increased heart rate, normotensive, with cold, damp skin, and visible traces of injection sites with surrounding hematomas on the anterior abdominal wall. Paroxysmal supraventricular tachycardia (PSVT) on electrocardiographic monitoring was found. The laboratory analysis determined a lowered potassium level of 2.1 mmol/L (normal range 3.5 - 5.2 mmol/L), and a toxicological analysis (liquid chromatography with ultraviolet detection) proved a toxic concentration of caffeine in plasma - 85.03 mg/L (toxic concentration over 25 mg/L). On application of intensive therapy, antiarrhythmics, and substitution of potassium, as well as both symptomatic and supportive therapy, there was a significant recovery. The patient was discharged without any sequela within four days. Conclusion. A presented rare iatrogenic acute caffeine poisoning occurred due to massive absorption of caffeine from the subcutaneous adipose tissue into the circulation when injected directly into the tiny blood vessels, as evidenced by hematoma formation. Poisoning manifestations were registered in gastrointestinal, CNS (anxiety, somnolence) and cardiovascular (hypotension, ventricular tachycardia and nonsustained PSVT) system. In this era of mesotherapeutic treatment promotion, one should keep in mind toxic prevention, with application being carried out exclusively in a specialized institution.
The assessment of the biological age is needed to estimate the level of health and the efficacy of measures being undertaken to slow down the ageing processes and prolong the active life of the patients. Earlier studies have demonstrated the improvement of both physical health and psychic status of the elderly patients following intravenous administration of procaine. The objective of the present work was to evaluate effect of various methods of administration of a 2% procaine solution on the biological age. A total of 95 subjects at the age between 30 and 75 years were enrolled in the study. The procaine solutions were applied to the collar region. The patients of group 1 were treated with 2% procaine electrophoresis, those in group 2 with procaine galvanization with the same parameters. Mesotherapy using the 2% procaine solution was given to the patients of group 3. It was substituted by placebo (0.9% physiological solution) in the patients of group 4 (controls). The study revealed the most significant decrease of the biological age (calculated as described by L. M. Belozerova) in the patients treated with procaine electrophoresis (91% improvement). The mesotherapeutic administration of procaine also produced the beneficial effect (59% improvement). Neither procaine galvanization nor placebo mesotherapy caused any significant change of the variables characterizing the biological age.
Mesotherapy is the injection of active substances into the surface layer of the skin. This method allows a slower spread, higher levels, and longer lasting effects of drugs in the tissues underlying the site of injection (skin, muscle, and joint) compared with those following intramuscular injection. This technique is useful when a local pharmacological effect is required and relatively high doses of drug in the systemic circulation are not. Mesotherapy should only be undertaken following a complete clinical workup and subsequent diagnosis. Encouraging results have been reported in randomized, controlled clinical trials and in observational studies involving patients with various forms of musculoskeletal pain. Recommendations by experts from the Italian Society of Mesotherapy for appropriate use of mesotherapy in musculoskeletal pain and an algorithm for treating localized painful conditions are provided. Copyright © 2012 Massimo Mammucari et al.
Background Mesotherapy treatment of aging skin aims to replace depleting levels of minerals, vitamins, amino acids, and hyaluronic acid (HA). Aim To investigate the efficacy of 13.5mg/g uncross-linked HA+0.9% mannitol (HA+mannitol) on skin hydration and elasticity. Patients/Methods Four centers enrolled 34 women: Subgroup 1 comprised 27 subjects injected using a "depot" technique; Subgroup 2 comprised seven subjects injected using a "picotage" technique. Results A notable difference was seen between the two subgroups in outcome and subject satisfaction. In Subgroup 1, a significant improvement was seen in hydration, anisotropy, and skin roughness, but Subgroup 2 showed no significant improvements. Most physicians assessed HA+mannitol as "easy/very easy" to inject. Physician esthetic assessment in Subgroup 1 was "improved/very improved" for >90% of subjects at Day 60, and >80% according to subject assessment. 95% of subjects were delighted with treatment, and 85% would undergo repeat treatment and would recommend treatment to a friend. However, results for Subgroup 2 indicated 86% of subjects were unhappy with treatment and 83% would refuse to undergo repeat treatment. Conclusions HA+mannitol is effective for skin hydration, anisotropy, and roughness when treated using a depot technique. © 2012 Wiley Periodicals, Inc.
Introduction: Nontuberculous mycobacteria (NTM) are becoming increasingly important. A growing number of patients with underlying conditions that make them prone to diseases caused by NTM. These diseases include the appearance of new syndromes, such as mesotherapy and other cosmetic-related infections, or diseases that affect patients who are being treated with tumor necrosis factor. Areas covered: A literature search has been performed for each mycobacterium species. An introduction to the different aspects of the species and the diseases is provided, along with a review of the current therapeutic options; special emphasis is put on new research and discoveries. Expert opinion: Recognition of the current role of NTM isolates remains the key step in the management of NTM infections. After recognition, treatment must be guided by attending to the isolated species, the specific syndromes, clinical experience and for some species the results of in-vitro susceptibility tests. Surgical therapy is also important for some species (Mycobacterium ulcerans, Mycobacterium scrofulaceum) and for localized infections. The treatment of uncommon species is not yet well defined and recent research on resistance mechanisms has described their importance. The role of biofilms is currently of special concern for various specific infections. © 2012 Informa UK, Ltd.
Cellulite is a disorder in which adipose tissue extends through the dermis, producing a cosmetically displeasing dimpling in the affected areas. While many treatments claim to be able to improve the appearance of cellulite, the long-term effectiveness of these treatments and whether the logic behind these treatments can lead to a long-term improvement has not been extensively reviewed. In the following review, our goal is to assess the various cellulite treatments and evaluate the length of time results persist and whether the science behind the treatments warrants them as reliable and effective treatments for cellulite. © 2012 Informa UK, Ltd.
Oleoma: Rare complication of mesotherapy for cellulite

Background Mesotherapy or intradermotherapy is used as a cosmetic procedure for many purposes, among them for cellulite. Methods We report a case of oleoma on the thighs and buttocks that appeared two years after the injection of an unknown substance for improvement of cellulite. Results Lesions and associated pruritus resolved with colchicine, leaving depressed scars. Conclusions Serious and peer-reviewed investigations must be performed to certify the efficacy and safety of this procedure. © 2012 The International Society of Dermatology.
Esthetic dermatology utilizes techniques based on controlled skin damage to obtain better skin quality following its destruction, elimination and regeneration. Nowadays, deeper research into the wound healing process helps us to better understand factors and cells playing a role in it. We can also modulate processes occurring in the skin in response to injury. Patients following peelings, mesotherapy, laser and rejuvenating treatment will be discussed. The arguments for use of healing agents and when they are suitable will be discussed depending on injury type. Wound healing is based on tissue events including inflammation, increased blood flow, neoangiogenesis, immunologically driven processes, cytokine activation, cell proliferation and turning on specific intracellular pathways. Wound healing activates keratinocytes and dermal mesenchymal cells such as fibroblasts, endothelial cells, macrophages and blood cells: lymphocytes, monocytes and platelets. Based on better knowledge regarding healing we can utilize it practically in order to achieve a better regenerative outcome and accelerate healing with a minimal risk of complications. Application of preparations positively modulating healing will improve comfort for the patient and the doctor who decided to use the method of skin damage. In order to support and improve wound healing several factors can be used: antiinflammatory, vasoconstrictive, platelet rich plasma, phospholipids, unsaturated essential fatty acids, vitamins, antioxidants and many others.
The promise of mesotherapy is maintenance and/or recovery of a youthful skin with a firm, bright and moisturized texture. Currently applied medications employ microinjections of hyaluronic acid, vitamins, minerals and amino acids into the superficial layer of the skin. However, the molecular and cellular processes underlying mesotherapy are still elusive. Here we analysed the effect of five distinct medication formulas on pivotal parameters involved in skin ageing, that is collagen expression, cell proliferation and morphological changes using normal human skin fibroblast cultures in vitro. Whereas in the presence of hyaluronic acid, NCTF135® and NCTF135HA®, cell proliferation was comparable to control cultures; however, with higher expression of collagen type-1, matrix metalloproteinase-1 and tissue inhibitor of matrix metalloproteinase-1, addition of Soluvit® N and Meso-BK led to apoptosis and/or necrosis of human fibroblasts. The data indicate that bioactive reagents currently applied for skin rejuvenation elicit strikingly divergent physiological processes in human skin fibroblast in vitro. © 2011 John Wiley & Sons A/S.
Lipedema is a chronic disease that results in the symmetrical impairment of fatty tissue distribution with hyperplasia of fat cells. There is often a family history of the condition, it is painful and causes an impairment of daily activities. Traditional conservative treatments combine compression therapy, manual lymph drainage, and diet modification, mainly addressing the reduction of pain. The aim of this study was to evaluate the effectiveness of adding low frequency ultrasound therapy to these treatments, with 40 KHz cavitation, and mesotherapy performed with homeopathic drug (Lymphdiaral Injektopas, with the following composition: Conium Dil. D3 2.5 mg, Hydrastis Dil. D3 2.5 mg, Phytolacca Dil. D4 2.0 mg, Scilla Dil. Dl 2.0 mg) in reducing leg measurements after treatment. The study was conducted on 20 healthy patients (all females). The subjects underwent 10 sessions of treatment on the fatty tissue of the legs, twice a week. Each low frequency ultrasound treatment was preceded by mesotherapy and followed by manual lymph drainage. Leg measurements, VAS pain scale and ultrasound measurements of suprafascial thickness were performed before and after the treatment protocol. The results showed a significant reduction in leg measurements and of suprafascial thickness, showing better results in combining all the performed conservative treatments, compared to limited protocols observed in literature. Average values of VAS pain scale showed significant reduction after treatment. No adverse effects were observed. BMI was substantially unchanged before and after the treatment in all patients.
The platelets used in oral, maxillofacial and plastic surgery are generally grouped as concentrated platelet rich plasma. The general principle of production consists of a centrifugation, making it possible to eliminate red blood cells, then acellular plasma, to preserve only the concentrated platelets. Aim to evaluate the efficacy of a three session of injections of autologous platelet-derived growth factors for full-face rejuvenation including the perioral and periorbital regions; 16 patients female between 27 and 60 years of age, were admitted to facial rejuvenation procedure. All these patients showed mainly class II rhytides. Six patients had rejuvenation of only the perioral region (five patients had class II rhytides and the other patient had class III rhytides). Another five patients had rejuvenation of only the periorbital region (two patients with class I rhytides, the other three had class II rhytides). Approximately 0.2 cc of autologous platelet-derived growth factors was produced per tube; this activated suspension was then injected intradermally or subdermally below the perioral and periorbital regions through 30 and 27 gauge needles, respectively, as needed to achieve the most optimal correction of the rhytides with mainly a linear threading technique. All patients demonstrated some improvement. 92.88% of participants were satisfied or very satisfied with their treatment result. The investigator evaluation rates of acceptable effect (score of 2 or 3) were 76.65%. The results lasted approximately 6 months with a gradual decline to baseline. Autologous platelet-derived growth factors in one treatment session for three months can achieve effective full-face skin rejuvenation, (with effects on both the epidermis and dermis.)
The application of skin electroporation in combination with iontophoresis (mesoporation) is a markedly effective means to deliver drugs substances into the skin. In this review, the principle of mesoporation and the results of its dermatological applications will be introduced.
Hypersensitivity reactions due to muscle relaxant drugs may be related either to a nonspecific release of allergic mediators or to allergic reactions induced by the molecules themselves. Rare cases of hypersensitivity reactions have been associated to thiocolchicoside, and no case of IgE-mediated immediate reaction has actually been reported to date. We report the first documented case of immediate anaphylaxis to thiocolchicoside.
The aim of this study was to broaden practitioner perspectives regarding the scope, safety, and efficacy of sclerotherapy for cosmetically unattractive veins and other conditions involving a variety of anatomical sites. The author wrote a review of results obtained following cosmetic sclerotherapy for both veins and in other applications is presented. This study involves hundreds of patients treated in a private phlebology practice spanning 33 years along with a brief review of pertinent literature. Since treatment of dilated veins involving the dorsa of the hands and face are rarely discussed, and widely performed, their treatment will be emphasized. The largely historical usefulness of sclerotherapy for other applications is also reviewed. As with lower extremity veins there was a great deal of both regional and patient-to-patient variability in terms of sensitivity to sclerosants and response to treatment. However, sclerotherapy carried out for cosmetic purposes has routinely produced satisfactory results for various applications and in a multiplicity of locations. Potentially serious complications and treatment failures were rare in properly selected patients. Patient satisfaction with a few exceptions was uniformly high. The addition of cosmetic sclerotherapy to an established phlebology practice can be a rewarding and highly satisfactory application of this versatile technique. Both treatment site, lesion type and the cosmetic nature of this therapy affects every aspect of treatment; legal, ethical, and procedural. Experience suggests that each area and type of lesion treated exhibits predictable patterns of response and risks. Vein treatment outcomes varying with anatomical site may reflect: 1) evolutionarily adaptive processes which have produced veins specialized for specific environments; 2) differences in patterns of cytokine recruitment and apoptotic processes. It should also be noted that potential complications reflect area specific patterns of venous anastomoses, nerves, vital structures, and the complexities of arterial architecture.
Development of subcutaneous nodules after mesotherapy
Aparición de nódulos subcutáneos después de aplicación de mesoterapia
Ramos A., Roustan G., Lucena J.L., Daza R.M.
Enfermedades Infecciosas y Microbiologia Clinica (2011) 29:10 (775-777). Date of Publication: December 2011
Background: Phosphatidylcholine (PPC) formulation is used for lipolytic injection, even though its mechanism of action is not well understood. Methods. The viability of 3T3-L1 pre-adipocytes and differentiated 3T3-L1 cells was measured after treatment of PPC alone, its vehicle sodium deoxycholate (SD), and a PPC formulation. Western blot analysis was performed to examine PPC-induced signaling pathways. Results: PPC, SD, and PPC formulation significantly decreased 3T3-L1 cell viability in a concentration-dependent manner. PPC alone was not cytotoxic to CCD-25Sk human fibroblasts at concentrations <1 mg/ml, whereas SD and PPC formulation were cytotoxic. Western blot analysis demonstrated that PPC alone led to the phosphorylation of the stress signaling proteins, such as p38 mitogen-activated protein kinase and c-Jun N-terminal kinase, and activated caspase-9, -8, -3 as well as cleavage of poly(ADP-ribose) polymerase. However, SD did not activate the apoptotic pathways. Instead, SD and PPC formulation induced cell membrane lysis, which may lead to necrosis of cells. Conclusions: PPC results in apoptosis of 3T3-L1 cells. © 2011 Li et al; licensee BioMed Central Ltd.
OBJECTIVE. The purpose of this article is to review the sonographic outcomes of common cosmetic and plastic surgery procedures, taking advantage of recent developments in the field of ultrasound that opened its broad application to dermatologic practice. CONCLUSION. Because cosmetic procedures have increased dramatically in frequency, some procedures are being performed by unauthorized personnel and some agents are being used that are not approved by certifying institutions, leading to complications. Thus, documentation of these procedures is an important proposition. © American Roentgen Ray Society.
Androgenetic alopecia is the most common hair loss disorder, affecting both men and women. Initial signs of androgenetic alopecia usually develop during teenage years leading to progressive hair loss with a pattern distribution. Moreover, its frequency increases with age and affects up to 80% Caucasian men and 42% of women. Patients diagnosed with androgenetic alopecia may undergo significant impairment of quality of life. Despite the high prevalence and the variety of therapeutic options available, there have been no national or international evidence-based guidelines for the treatment of androgenetic alopecia in men and women so far. Therefore, the European Dermatology Forum (EDF) initiated a project to develop an evidence-based S3 guideline for the treatment of androgenetic alopecia. Based on a systematic literature research the efficacy of the currently available therapeutic options was assessed and therapeutic recommendations were passed in a consensus conference. The purpose of the guideline is to provide dermatologists as well as general practitioners with an evidence-based tool for choosing an efficacious and safe therapy for patients with androgenetic alopecia. © 2011 Blackwell Verlag GmbH, Berlin.
Background: There has been significant interest recently in the technique of mesotherapy as a method of 'melting fat' for body contouring. Objective: The aim of this study was to evaluate the safety, efficacy and lipolytic potential of several compounds commonly used in cosmetic mesotherapy. Methods: A total of 75 women (mean age: 33 years) were separated randomly into three mesotherapy groups. Injections were performed for 15 treatments once a week. The main component of each cocktail was phosphatidylcholine/deoxycholic acid for group 1, caffeine for group 2, and Conjonctyl® for group 3. Outcome was evaluated by weight, body fat percentage (BFP), circumference measurements, and patient questionnaires. Results: Seventy-two of all the patients (96%) showed a circumference loss. An average circumference reduction of 4.41 cm per site for group 1, 2.99 cm for group 2, and 2.10 cm for group 3 was achieved. Mean body circumference loss was statistically significant, with \( p < 0.05 \). Weight loss was 5.33 ±1.09 kg for group 1, 3.74 ±1.51 kg for group 2, and 2.82 ±1.43 kg for group 3. Seventy-four subjects (98.7%) showed a BFP decrease. A questionnaire indicated high patient satisfaction (63%). No patient showed irregularities, dimples or any serious side effects after treatment. Conclusion: Mesotherapy is a well-tolerated and effective alternative treatment modality for reducing the diameter of body circumference. © 2011 Informa UK, Ltd.
An outbreak of cutaneous infection due to Mycobacterium abscessus associated to mesotherapy
Enfermedades Infecciosas y Microbiologia Clinica (2011) 29:7 (510-514). Date of Publication: August-September 2011

Introduction: In February 2009 an outbreak of subcutaneous abscesses due to Mycobacterium abscessus was detected in Spain which affected healthy women who had undergone mesotherapy procedures in an aesthetic clinic. Methods: Epidemiological research, health inspection and microbiological studies were conducted. The patients were given antibiotic treatment (according to susceptibility testing) with clarithromycin, and in some cases, combined with amikacin. Results: Seventeen out of 77 patients treated in the clinic were affected. The products used for the injections were homeopathic drugs in multi-dose vials. The environmental samples were negative. The sterile injection equipment and the clinical procedures were evaluated as correct. The storage conditions for the drugs were also correct, and all the samples tested negative for Mycobacteria. However Paenibacillus provencensis was isolated from samples of unused multi-dose vials and the withdrawal of the product from distribution was ordered. Deficiencies were detected in the sterile products process of at the homeopathic drug factory, so the production line was suspended. Conclusions: The results of environmental investigation suggest the most likely cause of the outbreak could have been the contamination of the products in the factory, although there was no laboratory confirmation. The widespread use of homeopathic products in invasive procedures requires extreme control during the manufacturing, handling and packaging process. It is important to consider mesotherapy and parenteral use of homeopathic medicines as potential sources of infection and therefore the same precautions in the procedures and quality assurance of products should be applied as with any other drug or medical activity. © 2010 Elsevier España, S.L. All rights reserved.
RECORD 216
Editorial
Goldberg D.J.
*Journal of Cosmetic and Laser Therapy (2011) 13:4 (133).* Date of Publication: August 2011
Non-tuberculous mycobacteria (NTM) infections usually occur in immunocompromised patients but also in immunocompetent patients following invasive procedures, especially for esthetic purposes. Since 2001, 20 episodes (57 cases) of NTM infections, seven of which (43 cases) were related to esthetic care, have been reported to the regional infection control coordinating centers (RICCC), the local health authorities (LHA), and the national institute for public health surveillance. Four notifications (40 cases) were related to non-surgical procedures performed by general practitioners in private settings: mesotherapy, carboxytherapy, and sclerosis of microvaricosities. The three other notifications (three cases) concerned surgical procedures-lifting and mammary prosthesis. Practice evaluations performed by the RICCC and LHA for five notifications showed deficiency of standard hygiene precautions and tap water misuse for injection equipment cleaning, or skin disinfection. Microbiological investigations (national reference center for mycobacteria) demonstrated the similarity of patient and environmental strains: in one episode (16 cases after mesotherapy), M. chelonae isolated from tap water was similar to those isolated from 11 cases. Healthcare-associated NTM infections are rare but have a potentially severe outcome. These cases stress the need of healthcare-associated infection notifications in outpatient settings. © 2011 Elsevier Masson SAS.
This review presents mechanisms of action and a review of the clinical applications of injections currently in development for localized fat reduction. After being received with initial enthusiasm earlier in the decade, mesotherapy and other injectable methods for fat loss (Lipodissolve, PC/DC, DC, injection lipolysis, adipolysis) have been subjects of critical scrutiny by the media and the US Food and Drug Administration. Several medications with novel detergent and lipolytic activity are in development and have demonstrated potential as minimally invasive fat reducing treatments. © 2011 Elsevier Inc.
Objective: Determine the safety and tolerance of mesotherapy as a technique for the treatment of musculoskeletal complaints in musicians. Method: 67 patients (55.2% women) were subjected to a total of 267 mesotherapy sessions. A mesotherapy needle or normal needle was used randomly. The drugs employed were thiocolchicoside and diazepam as muscular relaxants, pentoxifylline or buflomedil as vasodilators, and piroxicam as an anti-inflammatory, as directed. A visual analogue scale was used to quantify the pain produced by the microinjections as well as the degree of immediate and midterm side effects as reported on a standard questionnaire. Results: A mean of 155.5 microinjections were performed per session, of which 45.6% were perceived as painful by the patient with a mean severity of 4.3 out of 10. The pain reduced to 0.5 out of 10 after 24 hours. The most sensitive areas were the levator scapulae and splenius muscles. Systemic symptoms were reported by 5.99% of the musicians after the mesotherapy sessions (muscular weakness 1.5%, rash 1.5%, drowsiness 1.1% and itching 1.1%, being the most frequent). The mean severity of these symptoms was 2.77 out of 10. In all cases the symptoms had completely disappeared after 24 hours. No patient referred to signs of local or systemic infection. Conclusions: The application of drugs by means of subcutaneous injections (mesotherapy) in musicians is a technique that is safe, well tolerated, and without any severe complications.
Objective: Since its introduction in the 1950s, the use of mesotherapy has generated much interest among clinicians and patients. The Italian Society of Mesotherapy (SIM) brought together a panel of experts to review available evidence and to draw up a series of recommendations on the use of intradermal therapy (LIT) in clinical practice. Consensus Report: There was overwhelming agreement among Consensus Group members that, when used correctly, LIT is a valuable therapeutic option in the treatment of painful, loco-regional conditions. They also emphasised that the clinical efficacy of LIT has been demonstrated in the management of chronic venous lymphatic insufficiency, oedematous fibrosclerotic panniculopathy and facial skin aging. The experts were unanimous on the use of LIT in vaccination. Mesotherapy is not a substitute for other therapeutic options and should only be used when the patient has been fully informed of its advantages and limitations. Likewise the procedure should only be carried out by an experienced qualified physician. Conclusions: Although there was widespread agreement among the Consensus Group on the place of LIT in several indications, the Authors reiterated the need for more large-scale clinical trials to determine the specific benefits and limitations in some areas of the application of intradermal therapy.
After peripheral venous puncture and centrifugation platelets rich plasma is used to rejuvenate the tissues especially the skin through injections. Platelets deliver all the growth factors and serotonin included to stimulate the adult stem cells devoted to renew the tissues. These adult stem cells answer quicker and better repeating the sessions and after 6 sessions within 18 months we observe that we recreate new tissues to remodel the face and restore nice volumes. This is a very helpful procedure in the field of cosmetics most of all it's very interesting because autologous, no problem of tolerance or side effects, easy to use because no need of a lab, used in the office by the physician who inject All the growth factors are in physiological ratio so there's no problem about any cellular unexpected development and the procedure can be used for every patient Because of the structure of the skin, it can also be used for mesotherapy either to complete deeper injections or to replace them, as a maintenance of beauty, youth and healthiness. Regarding the basic principles of this procedure we enter the field of rejuvenating medicine which is emergent and seems to be a wonderful future.
Twenty-two elbows tendinites treated with platelets rich plasma after failure with the usual treatment

Traitemet de 22 cas de tendinites du coude, rebelles aux traitements classiques, par injection de plasma riche en plaquettes (PRP)

Le Coz J.


This 22 months study focussed on the treatment of epicondylitis and chronic tricipital tendinitis using platelets rich plasma injections. These 22 elbows had worsened for 7 months and had failed to improve after at least two standard treatments. Over half were treated with corticoid infiltrations or presented contraindication (tricipital tendinitis) and for some, surgery was suggested. In this study, the average measurement of pain, as visually observed in "every day life", was above 5.50. Approximately half of the patients received a "good" or "very good" result after the first treatment. For nine of the patients, a second treatment was needed and for three, a third one. The overall outcome showed 86% "good" and "very good" results. Follow-up examination after 9 months for the latest treatments and 22 months for the earliest ones showed no evidence of relapse, but instead continued improvement. © 2011 Elsevier Masson SAS.
Abdominal mesotherapy injection extended the absorption of follicle-stimulating hormone
Hsu C.-C., Kuo H.-C., Hsu C.-T., Gu Q.
Fertility and Sterility (2011) 95:6 (2134-2136.e1). Date of Publication: May 2011

Abdominal mesotherapy injection of recombinant human FSH (rhFSH) was well tolerated with increased net absorption (AUC(0-∞) 4,655.3 IU·h/L and t(1/2) 247.6 h) up to 360 hours compared with those of 120 hours (AUC(0-∞) 1,915.7 IU·h/L and t(1/2) 101.8 h). The extended absorption of rhFSH suggests that abdominal mesotherapy injection mode be considered for future administration of rhFSH in controlled ovarian hyperstimulation. © 2011 by American Society for Reproductive Medicine.
Phosphatidylcholine for the treatment of prominent lower eyelid fat pads: A pilot study
Ophthalmic Plastic and Reconstructive Surgery (2011) 27:3 (147-151). Date of Publication: May-June 2011

Purpose: To find out whether the off-label use of Lipostabil is as effective as advertised for the nonsurgical treatment of bulging lower eyelid fat pads. Methods: This is a pilot, randomized, placebo-controlled, double-blind, comparative, single-center study. Participants were 45 patients with full lower eyelids who were injected with 0.5 ml of Lipostabil in one eyelid and 0.5 ml of isotonic saline in the opposite lower eyelid as a control. Inclusion criteria were healthy adults older than 25 years. Exclusion criteria included patients with a known bleeding tendency or bleeding disorder and patients addicted to "antiwrinkle" products. The main outcome measures were reduction of lower eyelid fat pads and the occurrence of ocular or systemic side effects. Results: The pre- and postinjection pictures of the 23 patients who completed the study were examined by 3 masked observers. They failed to differentiate the Lipostabil from the saline-injected eyelids or even the pretreatment from the posttreatment pictures in the majority of patients. Conclusions: Mesotherapy is hailed in the media as the most exceptional discovery since the introduction of botulinum toxin. Unfortunately, we failed to observe any improvement in appearance or reduction of fullness after multiple injections. Further studies are needed to determine whether Lipostabil is indeed ineffective for the management of eyelid fullness or the dose the authors used has to be increased. © 2011 The American Society of Ophthalmic Plastic and Reconstructive Surgery, Inc.
Mesotherapy simply describes a method of drug delivery. It consists of intra- or sub-cutaneous injections of variable mixtures, including multivitamins, lidocaine, calcitonin, tretinion, hyaluronic acid, hyaluronidase, collagenase, minoxidil, phosphatidylcholine and many others. Mesotherapy can be used for many indications, but its main indication of fat dissolution has been primarily used. Other popular uses include facial skin rejuvenation and alopecia. Given the ease of treatment and its quick effect, with little to no downtime, mesotherapy has become extremely popular. As with any new technology, it is crucially important to assess the benefits and safety. Most of the published data regarding mesotherapy consisted of single case reports and small series. None were large, randomized controlled trials. Given that no large population, randomized controlled trials have ever been performed, it is advised that the use of mesotherapy be limited, and practiced with extreme caution. © 2011 Expert Reviews Ltd.
Mesotherapy should not replace the surgical approach in the treatment of benign symmetric lipomatosis.


Deconstructing beauty: Introduction to the cosmetic dermatology special focus issue
Galadari H.I.
Cosmetic Dermatology-Foreword, Book Series Title:
Background: The emergence of new technologies necessitates a study of current trends in liposuction and other methods for fat removal. Objective: The American Society for Aesthetic Plastic Surgery (ASAPS) conducted a survey of its members to gain valuable information from Board-certified plastic surgeons about their experience with new technologies for fat removal and managing complications after liposuction. Methods: The ASAPS Current Trends in Liposuction Survey was emailed to 1713 ASAPS members. Data were tabulated and examined to determine current trends in liposuction and other fat removal techniques performed by ASAPS members. Results: The response rate for the survey was 28.7% \((n = 492)\). Most ASAPS respondents reported performing between 50 and 100 liposuction procedures annually. Most plastic surgeons currently employ or have previous experience with suction-assisted lipectomy/liposuction (SAL), ultrasound-assisted liposuction (UAL), and power-assisted liposuction, but fewer reported experience with laser-assisted liposuction (LAL), mesotherapy, or external, noninvasive devices. SAL was the preferred method of fat removal for 51.4%. UAL, LAL, and SAL were most commonly associated with complications. Only 10.5% of ASAPS members employ LAL; 38% have treated a patient with complications secondary to LAL. Conclusions: Valuable information about current trends in liposuction and other fat removal techniques has been gained from this survey. Although many studies have been published that review issues related to safety, morbidity, aesthetics, and recovery after different methods of fat removal, more prospective studies with standardized objective outcome measures comparing these techniques, particularly newer modalities, are needed to continue improving safety-related standards of care. © 2011 The American Society for Aesthetic Plastic Surgery, Inc.
Mesotherapy is a controversial cosmetic procedure which has received publicity among the lay people, in the internet and in the media. It refers to minimally invasive techniques which consist of the use of intra- or subcutaneous injections containing liquid mixture of compounds (pharmaceutical and homeopathic medications, plant extracts, vitamins and other ingredients) to treat local medical and cosmetic conditions. This position paper has examined the available evidence and finds that acceptable scientific evidence for its effectiveness and safety is lacking. IADVL taskforce, therefore would like to state that the use of this technique remains controversial at present. Further research and well-designed controlled scientific studies are required to substantiate the claims of benefit of this mode of therapy.
Mesotherapy is a technical used for the treatment of the tendinous muscular pain. We analyzed the physical-chemistry stability of three products usually used: procaine, thiocolchicoside and piroxicam. Method: The studied products were analyzed alone or in combination with HPLC-MS. The stability kinetic with ambient temperature was realized at T0, T1 (five minutes), T2 (ten minutes) and T3 (three hours) for each compound, and at T0, T1 and T2 for the blend of the three ones. Each kinetic was realized three times with an averaged result. Results: We notice a degradation by 8.93% of procaine from T2. At T1, no degradation was observed. Piroxicam was found on its initial form concerning T inferior to five minutes. As regards thiocolchicoside at T2, the compound was recovered on an unchanged form. The blend of the three compounds accelerates their own degradation and at T equal to five minutes no compound was found on a spoiled form.

Discussion: With air contact, at ambient temperature and with a natural light, each product turns sour according to its kinetic. The blend of the three products accelerates this degradation. Just a five-minute interval between the preparation and an injection allows stability into the blend.

Conclusion: The physical-chemistry stability of procaine, piroxicam and thiocolchicoside begins as soon as the ampules are open, results increased after the blend of the three ones. During a consultation, the blend preparatory time should be between the two times of disinfection. The reuse of the same ampule during the next consultation is to ban. © 2011 Elsevier Masson SAS.
Comparison between the effects of trigger point mesotherapy versus acupuncture points mesotherapy in the treatment of chronic low back pain: A short term randomized controlled trial

Di Cesare A., Giombini A., Di Cesare M., Ripani M., Vulpiani M.C., Saraceni V.M.


Objective: The goal of this study was to compare the effects of trigger point (TRP) mesotherapy and acupuncture (ACP) mesotherapy in the treatment of patients with chronic low back pain. Design: Short term randomized controlled trial. Setting: 62 subjects with chronic low back pain were recruited at outpatients Physical Medicine and Rehabilitation Clinic at the University of Rome "La Sapienza" in the period between July 2006 and May 2008. Intervention: Study subjects were assigned to receive 4 weeks treatments with either trigger point mesotherapy (TRP mesotherapy, n=29) or acupoints mesotherapy (ACP mesotherapy, n=33). Main outcome measures: Pain intensity with a pain visual analogic scale (VAS) and verbal rating scale (VRS) and pain disability with McGill Pain Questionnaire Short Form (SF-MPQ), Roland Morris Disability Questionnaire (RMQ) and Oswestry Low Back Pain Disability Questionaire (ODQ). Results: ACP mesotherapy shows a more effective results in VRS and VAS measures in the follow-up (p(VRS)<=0.001 and p(VAS)<=0.001). The SF-MPQ measure shows a better results for ACP instead of TRP with statistically significant differences between groups and time (p=0.035). Participants reported a slight discomfort at the time of the inoculation, and 15% reported slight neck pain in ACP mesotherapy group. Conclusions: Our results suggest that the response to ACP mesotherapy may be greater than the response to TRP mesotherapy in the short term follow-up. This technique could be nevertheless a viable option as an adjunct treatment in an overall treatment planning of CLBP. © 2010 Elsevier Ltd.
Aim Hair mesotherapy, as broadly defined, represents a variety of minimally invasive techniques in which medications are directly injected into the scalp in order to improve alopecia. There are few clinical studies evaluating the efficacy and safety of mesotherapy in any form. Material and Methods In this study, we evaluate the clinical changes of mesotherapy formulation on 15 men and 8 women patients, which consists of minoxidil, biotin, dexpantenol, herbal complex and procain and which is applied for androgenetic alopecia in our clinic every week. Results In the analysis done before and after the mesotherapy, when the hair quantity, hair thickness, scalp state and hair loss are compared, the difference between them was statistically meaningful (p<0,05). There was no side effect during and after the application. Conclusion In the hair mesotherapy, there is lack of mixture and application scheme whose effectiveness has been proved scientifically. We approve this study to be published that it supports the few issues.
RECORD 233

Cutaneous mycobacterium abscessus infection associated with mesotherapy injection
Wongkitisophon P., Rattanakaemakorn P., Tanrattanakorn S., Vachiramon V.
Case Reports in Dermatology (2011) 3:1 (37-41). Date of Publication: January-April 2011

Non-tuberculous mycobacterial skin infections have an increasing incidence. In immunocompetent patients, they usually follow local trauma. We present a case of cutaneous Mycobacterium abscessus infection following mesotherapy. The lesions were successfully treated with a combination of clarithromycin, ciprofloxacin, and doxycycline. Atypical mycobacterial infection should be suspected in patients who develop late-onset skin and soft tissue infection after cutaneous injury, injection, and surgical intervention, particularly if they do not respond to conventional antibiotic treatment. Copyright © 2011 S. Karger AG, Basel.
Pharmacological therapy of back pain with analgesics and anti-inflammatory drugs is frequently associated with adverse effects, particularly in the elderly. Aim of this study was to compare mesotherapeutic versus conventional systemic administration of nonsteroidal anti-inflammatory drugs (NSAIDs) and corticosteroids in patients with acute low back pain. Eighty-four patients were randomized to receive anti-inflammatory therapy according to the following protocols: (a) mesotherapy group received the 1st and 4th day 2 lidocaine (1mL) + ketoprofen 160mg (1mL) + methylprednisolone 40mg (1mL), then on 7th, 10th, and 13th day, 2 lidocaine (1mL) + ketoprofen 160mg (1mL) + methylprednisolone 20mg (1mL) (b) conventional therapy group received ketoprofen 80mg 2/die and esomeprazole 20mg/die orally for 12 days, methylprednisolone 40mg/die intramuscularly for 4 days, followed by methylprednisolone 20mg/die for 3 days, and thereafter, methylprednisolone 20mg/die at alternate days. Pain intensity and functional disability were assessed at baseline (T0), at the end of treatment (T1), and 6 months thereafter (T2) by using visual analogic scale (VAS) and Roland-Morris disability questionnaire (RMDQ). In both groups, VAS and RMDQ values were significantly reduced at the end of drug treatment and after 6 months, in comparison with baseline. No significant differences were found between the two groups. This suggests that mesotherapy may be a valid alternative to conventional therapy in the treatment of acute low back pain with corticosteroids and NSAIDs.
Intradermotherapy is a medical procedure introduced by Pistor in 1958 that consists in the application of intradermal injections of diluted pharmacological substances that are given directly into the region to be treated. There are reports of the use of intradermotherapy to treat painful diseases, skin diseases and unaesthetic conditions. Medical clinics have been recently offering the treatment of intradermotherapy, using the more popular name for this practice - mesotherapy. There is only scant scientific information about this subject published in periodicals indexed on MedLine. Only a few states rigorously pursue this method. Most indexed publications about this subject deal with the complications of this technique. Unaesthetic dermatoses have been a common complaint in dermatologic clinics, and it has become necessary to have scientific evidence to give to patients. Therefore, well-researched scientific studies about this technique are necessary to offer data to medical professionals that will clearly explain to patients both the benefits and the risks of these procedures. A bibliographical review was conducted and we verified the need for new studies with adequate methods to confirm the benefits of intradermotherapy as used in dermatologic treatment. ©2011 by Anais Brasileiros de Dermatologia.
Background: Volume loss and muscular hyperactivity are two major components of the aging process that contribute to the formation of the folds and wrinkles. Tear trough deformity is one of the most difficult depressions to correct surgically. Purpose: The aim of this study was to evaluate the results of ten patients submitted to periorbital filling with hyaluronic acid gel filler. Methods: Between June and August, 2008, 10 patients have had their tears troughs treated with hyaluronic acid gel filler. The filler was introduced by a serial puncture technique and approximately 0.1 ml was injected at each pass. The filler was placed in the pre-periosteal tissue. Patients photographs before and after the procedure were reviewed to assess the outcomes. Results: The mean volume per side needed to achieve correction was on the right side 0.61 ml (SD=0.25) and on the left side 0.65 ml (SD=0.26). The most common complications were bruising, erythema, local swelling, and pain at the injection site. The effect of treatment lasted up to 12 months. Conclusions: This pilot study showed that the treatment of tear trough deformity with hyaluronic acid gel filler was feasible, predictable and effective. All patients were very satisfied with their results.
A systematic review of dermal fillers for age-related lines and wrinkles
Sturm L.P., Cooter R.D., Mutimer K.L., Graham J.C., Maddern G.J.

Background: Dermal fillers are gaining popularity for rapid aesthetic improvement. Long-term efficacy and safety have not been well documented. The aim of this systematic review was to assess the safety and efficacy of injectable dermal fillers compared with other facial augmentation techniques for the management of age-related lines and wrinkles. Methods: Studies including patients receiving injectable semi-permanent or permanent dermal fillers for age-related lines and wrinkles were included in this review. Efficacy outcomes (including changes in skin thickness and patient satisfaction) and safety outcomes (including mortality, lumps and infections) were examined. Results: Three randomized control trials and six case series were included. Permanent and semi-permanent dermal fillers improved subjective ratings of appearance and resulted in higher patient satisfaction than temporary fillers. Long-term efficacy appeared good in the few studies that reported it. Short-term safety appeared favourable. Lumps were reported in all but one study but received little follow-up. Long-term safety data were limited. Conclusions: The treatment of age-related lines and wrinkles with permanent and semi-permanent dermal fillers is more efficacious compared with temporary fillers in those studies that compared them. Case series evidence suggests that these fillers achieve their objective, which is to decrease the visible effects of age-related changes. These fillers appear at least as safe as temporary fillers in the short term in those studies that compared them. Long-term safety could not be determined. © 2010 The Authors. ANZ Journal of Surgery © 2010 Royal Australasian College of Surgeons.
Bukvić-Mokos Z., Lipozenčić J.
Date of Publication: Dec 2010
Today's society is characterized by a desire to achieve and maintain youthful appearance, and both men and women are increasingly seeking for cosmetic enhancement. Corrective dermatology is one of the fields dealing with such clients. Corrective dermatology interventions include chemical peels, fillers, botulinum toxin, laser treatments, mesotherapy, etc. Although clients are usually satisfied with the outcome of these minimally invasive cosmetic interventions, there are some people that have unrealistic expectations of the outcome. Moreover, there is a particular subgroup of people that appear to respond poorly to cosmetic procedures and are never satisfied with the outcome. These are usually people with the psychiatric disorder known as 'body dysmorphic disorder'. The major challenge for the physician in corrective dermatology is detection of the clients with unrealistic expectations towards the aesthetic procedure they have decided to undergo. Therefore, medical professionals who practice corrective dermatology should have a serious, non-profitable approach and select their clients carefully. High quality training in aesthetic procedures, knowledge of the possible complications and the ability to address them properly, along with the obligatory informed consent including photodocumentation, should be the framework of good practice. This is also the best way to protect medical professionals from unrealistic expectations of their clients.
Follow-up on an outbreak in Venezuela of soft-tissue infection due to Mycobacterium abscessus associated with Mesotherapy

Introduction: Skin and soft tissue infections caused by nontuberculous mycobacteria (NMT) are reported to be associated with injections, liposuction, plastic surgery, and acupuncture. Herein, we describe an outbreak of soft tissue infection due to NMT following mesotherapy, a cosmetic procedure involving injection of poorly defined mixtures alleged to reduce local adiposity.

Methods: Patients with skin lesions and a history of mesotherapy treatment, who visited the dermatology department of the public hospital in Barinas, Venezuela, from November 2004 to February 2005 were interviewed. Clinical and environmental samples were taken for mycobacteria isolation. Results: The interviews revealed that 68 patients who had been treated for cosmetic purposes at the same clinic by the same therapist had received injections with the same product and were infected with NMT. Clinical specimens from 5 patients grew Mycobacterium abscessus. No mesotherapy solution was available for analysis but M. abscessus was isolated from an environmental sample in the clinic. PCR-based strain typing techniques (ERIC-PCR, BOXA1R and RAPD) showed that the patient's isolates were undistinguishable from each other but different from the environmental isolate. Conclusions: This outbreak was likely caused by a contaminated injectable mesotherapy product and not by mycobacteria from the clinic environment. We emphasize the importance of better microbiological control of these products. To our knowledge, this outbreak, which affected at least 68 patients, appears to be the largest ever associated with mesotherapy and described in the literature. © 2009 Elsevier España, S.L. All rights reserved.
We herein report a case of 32-year-old woman who developed erythematous, indurated plaques, nodules on her lower back, hips and inguinal areas which had started after immunotherapy on the injection sites. She had a history of recurrent oral aphthous-like ulcers for 2 years and also had abdominal pain for 2 months. Colonoscopy revealed multiple aphthous ulcers on intestine. Diagnosis of lobular panniculitis was confirmed by histopathological finding of the skin biopsy and she was diagnosed as Behcet's disease. Eruptions due to mesotherapy accepted as hypersensitivity reaction. Before employing this technique, patients should be carefully examined for Behcet's pathognomonic clinical findings. © 2010 Springer-Verlag.
Mixed cell granulomatous panniculitis on the cheek due to injection of a solution containing phosphatidylcholine and deoxycholate

Kato M., Watanabe T., Yamada N., Yoshida Y., Yamamoto O.

Objective: To review the most common Complementary and Alternative Medical (CAM) therapies described for chronic pelvic pain care and to analyze their results as reported in the literature.

Material and methods: Review of articles and consensus conferences published on this subject in the Medline (PubMed) database, selected according to their scientific relevance. Results: Lifestyle interventions have a positive impact on patients' self-management of their chronic pain. Positive outcomes are associated with well-balanced diet, dietary changes and certain dietary supplementations for bladder pain syndrome and chronic pelvic pain syndrome. Limited data exist supporting the use of acupuncture for chronic pelvic pain, endometriosis, bladder pain syndrome and urethral pain syndrome. There is no evidence for homeopathy and mesotherapy. Conclusions: Published data on many CAM therapies suggest their potential as complementary treatment options of chronic pelvic pain. As conventional treatments, CAM therapies warrant further studies to assist in their validation as permanent treatment options for this patient population. © 2010 Elsevier Masson SAS.
Mesotherapy was initiated by Doctor Pistor in 1952 and became a university discipline in 2002 with the creation of a university diploma in the framework of anti-pain therapy. There are currently five Faculties dispensing this diploma in France with practical internships and numerous hospital clinics in relation with PRM or orthopaedic surgery units. Mesotherapy consists in the injection of a non-cortisone drug mixture intradermally over the affected zone. The treatment is strictly local, with no secondary effects if rigorous injection conditions are respected. There is no problem with doping since none of the drugs used in mesotherapy are on the doping list. The main indications in sports medicine are tendiopathy, muscle disorders (contractures, elongations, level 1 and 2 tears), bone disease (periostitis, osteochondritis), joint disease (sprain, arthropathy) and spinal disease (torticollis, lumbago, lumbosciatic). Three studies provide supportive evidence for the theory: - treatment of long biceps tenosynovitis with mesotherapy A: 61 cases; - treatment of pubic disease with mesotherapy: 51 cases; - post cardiac surgery acute back pain: mesotherapy versus reference treatment. In all, mesotherapy is a therapeutic technique which provides good results with no secondary effects and which allows for a clearly improved quality of life for the sports athlete and with a very lower cost than the reference treatment.
**RECORD 245**  
**Mesotherapy in the PRM unit**  
Bigorra E., Laurens D., Miljkovic D.  
*Annals of Physical and Rehabilitation Medicine (2010) 53 SUPPL. 1 (e59-e60).* Date of Publication: October 2010

Title.- Mesotherapy in the PRM unit. Description: - general presentation of mesotherapy technique; - objectives: demonstrate the usefulness of non-cortisone injections in PRM; - prerequisite: open mind. Material.- Needles 0.30x4 mm and 0.30x13 mm, electronic injectors. Method.- - injection depth, techniques, session schedule; - indications in PRM; - presentation and discussion of clinical cases. Public.- Residents, PRM physicians. Level.- Initiation. Number of participants.- Fifty participants. Language.- French, english.
It has been shown that local anesthetics have many effects on different cells. They act directly at the plasma membrane and interact with membrane lipid and protein producing molecular disorder, inhibition of fibroblast activity, induces vacuolization of many cell types and, among other actions, decreases the synthesis of collagen. Procaine selectively inhibits ATP-calcium dependent, blocking the entry of extracellular calcium to the cell, alters the function of microtubules and microfilaments, changes cell shape and the distribution of membrane receptors, inhibits various enzymes like phospholipase A2 involved in lipolysis, alter the DNA and cell cycle. Despite the fact that local anesthetics (e.g. procaine) have been used in mesotherapy formulas as an "indispensable vector" for over 55 years, we must be careful in its use as a diluter of formulas. Based on these tissue changes, we consider it important to know the specific actions of procaine in different cell structures. © 2011 Asociación Argentina de Dermatología.
Treatment of acute cutaneous leishmaniasis with intralesional injection of meglumine antimoniate: Comparison of conventional technique with mesotherapy gun
Kashani M.N., Sadr B., Nilforoushzadeh M.A., Arasteh M., Babakoohi S., Firooz A. 
*International Journal of Dermatology (2010) 49:9 (1034-1037).* Date of Publication: September 2010

Background: The gold standard treatment of Old World leishmaniasis, a common tropical parasitic infestation, is intralesional meglumine antimoniate injection. Mesotherapy is a new minimally invasive method of administration of variable substances to the skin. Objective: Comparison of the efficacy and adverse effects of treatment of leishmaniasis with intralesional injection of meglumine antimoniate using conventional method and mesotherapy method. Patients and methods: Eighty-five patients with proven leishmaniasis were recruited and randomly treated by one of the two methods, either by conventional injection or by mesotherapy administration weekly. Lesion characteristics were evaluated at every treatment session as well as 1 week, 1 month and 3 months after cessation of treatment. Results: The improvement in lesions was similar in both groups, while it was noted sooner in mesotherapy group with less amount of drug usage ($P = 0.005$ and 0.016 respectively). Also, patients treated with mesotherapy experienced less pain severity ($P = 0.005$). Conclusion: Mesotherapy is a safe and effective method of meglumine antimoniate injection for the treatment of cutaneous leishmaniasis and is less painful. © 2010 The International Society of Dermatology.
Mesotherapy is a minimally invasive procedure that is widely used in Europe and elsewhere to treat various injuries and medical conditions. This medical specialty targets problem areas with microinjections of conventional or homeopathic medicines, vitamins, minerals and amino acids. Tiny "medicinal bullets" are delivered directly into the mesoderm (middle layer of skin) that is highly specific to the condition being treated. Mesotherapy is a medical specialty that involves injecting microscopic quantities of natural extracts, homeopathic agents, pharmaceuticals and vitamins into the skin. It can be used to eliminate cellulite, promote weight loss, treat aging skin and redundant (sagging) skin, and rejuvenate the hands and neck. Liposuction does not treat cellulite. In fact, liposuction often causes existing cellulite to appear more prominent. Mesotherapy treats cellulite directly, promoting smoother skin and reducing fat in selected areas. Fat deposits are flushed from the body, and do not reappear in other areas, which often occurs after liposuction. Mesotherapy does not require hospitalization, general anaesthesia or downtime. Although Mesotherapy is used to treat a broad spectrum of injuries, illnesses and medical conditions, it is also employed to treat cosmetic conditions, including acne, cellulite, stretch marks, scars and wrinkles. It can also be used to reduce contour fat. In the present article, we have concentrated on various aspects of technique so called mesotherapy. The aim of present article is to provide in depth knowledge about possible utility of this technique in current clinical scenario.
Advantages of combined therapies in cosmetic medicine for the treatment of face aging: Botulinum toxin, fillers and mesotherapy
Braccini F., Dohan Ehrenfest D.M.
Revue de Laryngologie Otologie Rhinologie (2010) 131:2 (89-95). Date of Publication: September 2010

Non surgical cosmetic medicine procedures for the face are developing considerably, as they deliver good results using simple, non invasive, atraumatic and reproducible techniques. Aesthetic mesotherapy, also known as anti-aging mesotherapy, uses intra-dermal injections of a nutritive and moisturizing solution to improve brightness, skin hydration and tonus, and also smooth out superficial wrinkles. Subcutaneous filler injections enable to fill wrinkles and folds; by using high density products it is also able to provide genuine facial volumetric reconstruction. Finally, botulinum toxin acts by reducing certain muscle contractions to smooth out expression lines and folds induced by facial dynamics. In this article, we explore the concept of combined therapy and describe our experience associating anti-aging mesotherapy (NCTF-135HA, Filorga, Paris, France), hyaluronic acid based fillers (X-HA3 and X-HA-Volume, Filorga, Paris, France) and botulinum toxin (Vistabel, Allergan, Irvine CA, USA). A therapy combining antiaging mesotherapy, botulinum toxin and filler injections, offers full treatment of the 3 biological levels of the covering tissues. This non-invasive therapeutic strategy brings patient satisfaction through a global approach to facial aging.
Background and aims: Fibromyalgia is a complex chronic condition which causes widespread pain and fatigue and a variety of other symptoms. Most common cause of generalized musculoskeletal pain in women ages between 20-25 years. In females 10 fold more common than males. Pain and not just tenderness in 1 of 18 tender point sites. Mesotherapy is a technique of treatment in which intradermal, superficial, subcutaneous injections are used to let penetration small quantities of drugs in the body with needles. We aimed to evaluate the effectiveness of mesotherapy for the treatment of chronic pain related to fibromyalgia. Methods: This prospective study was conducted on 25 consecutive patients who suffered from chronic pain related to fibromyalgia between June 2007 and June 2009. A mixture of solution including 2 mL of 1% lidocaine, 2 mL (10 mg) of diazepam and 5 mL (50 mg) of buflomedil HCl is administered to trigger points intradermally by a 30G mesotherapy needle. Moreover a mixture of solution including 2 mL of 1% lidocaine and 5 mL of magnesium pidolate is administered to insertion areas intradermically superficially by a 30G mesotherapy needle. This regimen is repeated after 7, 14 and 21 days. Subsequently the treatment is administered every two weeks over 2 months and at the 6th and 12th month. Pain intensity is evaluated by visual analog scale (VAS) before and after the first treatment. Number of painless days are recorded by patients over 1 year. Results: 18 of 25 patients were female. Mean age was 42.7±10.3. Mean VAS scores were significantly reduced after the treatment (4.7±1.2 and 1.4±0.4 respectively, p> 0.01). Mean value of number of painless day was 302.5 ±11.7. Conclusions: We concluded that mesotherapy is an effective and easy administrable method for the treatment of chronic pain related to fibromyalgia.
Letter: Mesotherapy-induced urticaria
Rallis E., Kintzoglou S., Moussatou V., Riga P.
Dermatologic Surgery (2010) 36:8 (1355-1356). Date of Publication: August 2010
Introduction: Cutaneous tuberculosis as a result of a needle injection is a rare event; it generally occurs among medical and laboratory personnel and among patients receiving percutaneous treatment. Objective: Six patients are presented who developed cutaneous tuberculosis after mesotherapy cosmetic treatment. Material and methods: One to four months after injection of an unknown product as treatment for obesity and cellulites, five women and a man developed papules, nodules and drainage of wax like material at the inoculated sites; this was interpreted clinically as a non tuberculous mycobacterium infection. Skin biopsies were taken for a histopathologic study; the biopsy and exudates were cultured to make a phenotypic identification. Polymerase chain reaction and restriction enzyme pattern analyses (PCR-restriction pattern analysis)) procedures were applied to the skin biopsies. Results: Mycobacterium tuberculosis was confirmed in the culture and by PRA analysis in the paraffin-embedded biopsies. The patients had never had tuberculosis. Their thoracic X rays were normal and the size of the tuberculin reaction was 17 to 20 mm. Five patients recovered with antituberculosis treatment and the sixth spontaneously healed after the removal of the largest cutaneous module. No satellite adenopathy or recurrences were observed. Conclusions: A previously undescribed mode of acquisition cutaneous tuberculosis was described. This was the second incident of a demonstrated cutaneous tuberculosis following mesotherapy in Colombia. Skin lesions induced by injections must be tested to detect mycobacteria to include M. tuberculosis.
The objective of the present study was to evaluate effects of mesotherapy (MT) and electrostimulation (EMS) on age-related changes of the facial skin. The secondary objective was to identify factors influencing the therapeutic efficiency of these methods. The study included 60 women aged from 30 to 59 years. All the patients were examined prior to the onset and in the end (after one month) of the corrective treatment. Facial skin conditions were assessed using a Skin XP Pro system and skin microcirculation by laser Doppler flowmetry (LDF). The psychological status of the patients was evaluated with the help of the Well-being-Activity-Mood test. After the primary examination, the participants of the study were randomly divided into two groups. Group 1 (n=30) included women treated by MT and EMS, the control group 2 (n=30) was comprised of the patients who did not receive the above treatment. The results of the study indicate that combine MT + EMS therapy significantly improves the state of facial skin, decreases its pigmentation, reduces the number and depth of wrinkles, enhances skin moisture, improves its elasticity and decreases porosity. Dynamics of these parameters and overall effect of correction were shown to correlate with the severity of skin changes before the treatment. Age-related changes in the facial skin were especially well-apparent in women with the lowered activity level and impaired mood. Characteristics of mood in the course of therapeutic correction correlated with dynamics of skin smoothness and elasticity.
Background: The gold standard treatment of Old World leishmaniasis, a common tropical parasitic infestation, is intralesional meglumine antimoniate injection. Mesotherapy is a new minimally invasive method of administration of variable substances to skin. Objective: Comparison of the efficacy and adverse effects of treatment of leishmaniasis with intralesional injection of meglumine antimoniate using conventional method and mesotherapy method. Patients and methods: Eighty five proven leishmaniasis cases were recruited and they were randomly treated by two methods of conventional injection or mesotherapy administration weekly. Lesion characteristics were evaluated in every treatment session, 1 week, 1 month and 3 months after cessation of treatment. Results: The improvement in lesions was similar in both groups, while they happened sooner in mesotherapy group with less amount of drug in fewer sessions (P = 0.005 and 0.016, respectively). Patients treated with mesotherapy experienced less pain severity (P = 0.005). Conclusion: Mesotherapy is a safe and effective method of meglumine antimonite injection for the treatment of cutaneous leishmaniasis. This method is less painful.
Outbreak of mesotherapy-associated cutaneous infections caused by Mycobacterium chelonae in Colombia
RECORD 256
Hand rejuvenation by mesotherapy
Rajeunissement des mains par mésothérapie
George F.
Adverse reaction to cutaneous injection of contents from a vitamin E liquid-containing capsule

Pugliese S., Yaar R., Al-Dawsari N., Goldberg L.J., Garg A.

*Archives of Dermatology* (2010) 146:4 (454-455). Date of Publication: April 2010
BACKGROUND: Benign symmetric lipomatosis, also known as Madelung disease, is a rare disorder characterized by fat distribution around the shoulders, arms, and neck in the context of chronic alcoholism. Complete excision of nonencapsulated lipomas is difficult. However, reports describing conservative therapeutic measures for lipomatosis are rare. METHODS: The authors present the case of a 42-year-old man with a diagnosis of benign symmetric lipomatosis who had multiple, large, symmetrical masses in his neck. Multiple phosphatidylcholine injections in the neck were administered 4 weeks apart, a total of seven times to achieve lipolysis. RESULTS: The patient's lipomatosis improved in response to the injections, and he achieved good cosmetic results. CONCLUSIONS: Intraleisional injection, termed mesotherapy, using phosphatidylcholine is a potentially effective therapy for benign symmetric lipomatosis that should be reconsidered as a therapeutic option for this disease.
Non-tuberculous mycobacterial infections related to cosmetic and medical procedures and acupuncture

Carbone A., Brossier F., Arnaud I., Bougmiza I., Cambau E., Meningaud J.P., Jarlier V., Caumes E., Astagneau P.

Clinical Microbiology and Infection (2010) 16 SUPPL. 2 (S63). Date of Publication: April 2010

Objectives: Mesotherapy is an increasing used technique involving subcutaneous injections of minute quantity of various medical drugs for cosmetic or rheumatism purposes. This practice was already reported to be related to infection risk. In January 2007, a general practitioner notified to the health authorities and the regional centre for infection control a cluster of subcutaneous infections due to non-tuberculosis Mycobacteria (NTM) following mesotherapy. An epidemiological investigation was performed to describe the outbreak, to identify the source and the mechanism of contamination and to determine risk factors. Methods: The case definition was based on typical clinical subcutaneous lesion associated with positive specimens for NTM. An assessment practice study was performed to determine potential risk factors to be tested in a comparative epidemiological study. Data were collected including schedules of outpatient visits, localisation of injections, and type of injected products. Tap water of the medical examination room was sampled for search of Mycobacteria. Mycobacterium chelonae strains were compared using Pulsed Field Gel Electrophoresis (PFGE). Results: Overall, 16 cases were identified among 105 outpatients (attack rate: 15.2%), including 11 positive for Mycobacterium chelonae and 2 for M. fredericbergersen. M. chelonae was found in the tap water. Assessment practice study identified inappropriate cleaning and rinsing of the multiple injection device (automatic repetitive machine) using tap water which was likely to be the source of NTM contamination. Indeed, PFGE M. chelonae strains patterns were similar between patients and tap water samples. In the univariate analysis, NTM infection incidence rate was higher in patients having Monday or Thursday visits, being at the 2nd rank during the session, having cosmetic purpose for weight loss or more injections on abdomen, upper leg or hip. In the multivariate analysis, being at the 2nd rank during the session (Odds ratio = 3.1 [1.0-9.6]) and having a higher rate of visits on Monday or Thursday (Odds ratio = 9.7 [1.2-77.8]) remained the only independent risk factors of NTM infection. Conclusion: This investigation highlights that failure in disinfection of injecting material could generate severe infections with highly resistant bacteria related to non regular medical cares. Efforts should focus on control of hygiene practices in non hospital settings based on appropriate guideline recommendations.
Modulatory effect of platelet-rich plasma on human fibroblasts
Lee Y., Kim D., Kim M., Lee J.
Journal of Investigative Dermatology (2010) 130 SUPPL. 1 (S41). Date of Publication: April 2010

Recently usefulness of autologous platelet-rich plasma has attracted attention in the field of anti-aging medicine, and it has been applied successfully in clinical use for mesotherapy for skin rejuvenation. Promoting the biosynthetic capacity of fibroblasts which play an important role in tissue remodeling is a one of the goal of this technique. However, little has been reported regarding the effect of the platelet-rich plasma on Human fibroblast. The aim of this study is to investigate the effect of platelet-rich plasma (PRP) and platelet-poor plasma (PPP) on fibroblast cell function in vitro, which will provide important data for clinical application, and identify the mechanism underlying this process. PRP and PPP were prepared using a double-spin method and activated with thrombin and calcium chloride. To measure the proliferative potential of activated PRP and PPP, Cell proliferation was measured by [3H]thymidine incorporation assay. To evaluate synthetic capacity, the level of procollagen type I carboxy-terminal peptide (PIP) was quantified using enzyme linked immunosorbent assay (ELISA). In addition, collagen and matrix metalloproteinases (MMP) production was studied through Western blotting and Reverse transcriptase-polymerase chain reaction (RT-PCR). PRP clot releasate stimulates cell proliferation and collagen deposition and enhances the gene expression of matrix-degrading enzymes by human fibroblast in vitro. This suggests that in vivo PRP application could lead to stimulates collagen synthesis, which may promote accelerated tissue remodeling.
RECORD 261
Alopecia and mesotherapy
Alopécie et mésothérapie
Schmutz J.-L., Barbaud A., Trechot P.
Mesotherapy and anti-obesity medications are gradually gaining worldwide popularity for purposes of body contouring and weight loss. Their adverse effects are various, but there is a tendency to disregard them. Ischemic colitis is one of the most common diseases associated with non-obstructive blood vessel disorders. However, there have been no case reports about the adverse effects resulting from mesotherapy only or in combination with anti-obesity medications. We report on an interesting case of ischemic colitis after mesotherapy combined with anti-obesity medications in a 39-year-old female who had no risk factors. © 2010 Baishideng.
Three cases of panniculitis due to Mycobacterium abscessus after mesotherapy
Tres casos de paniculitis por Mycobacterium abscessus posmesoterapia
Gutiérrez-de la Peña J., Ruiz-Veramendi M., Montis-Suau A., Martín-Santiago A.
Actas Dermosifiliografías (2010) 101:2 (188-190). Date of Publication: March 2010
Treatments for localized adiposities range from topical creams to liposuction. Most treatments lack a substantial proof of efficacy. The unpredictable treatment outcome can be related to the fact that cellulite adipose tissue is physiologically and biochemically different from subcutaneous tissue found elsewhere in the body. Part II of this two-part series on cellulite reviews the various treatment options that are currently available for human adipose tissue including, but not limited to, cellulite. It also focuses on newer techniques that can be potentially useful in the future for the treatment of cellulite. Learning objectives: After completing this learning activity, participants should be able to understand the wide range of treatments available for localized adiposities including, but not limited to, cellulite-prone areas, know the differences in their mechanisms of action and be able to make the most appropriate decision for patient care, and discuss and understand newer treatments for cellulite that are still being investigated along with the physiologic and biochemical basis for their mechanisms of action. © 2010 American Academy of Dermatology, Inc.
An outbreak of Mycobacterium fortuitum cutaneous infection associated with mesotherapy: SHORT REPORT
Quiñones C., Ramalle-Gómara E., Perucha M., Lezaun M.-E., Fernández-Vilariño E., García-Morrás P., Simal G.

Objective We describe an outbreak of Mycobacterium fortuitum cutaneous infections associated with mesotherapy in La Rioja, Spain. Design Descriptive epidemiology. Setting Private practice. Patients or other participants Case subjects were customers of a single beauty salon who were treated with mesotherapy injections. Intervention(s) Two skin biopsies were taken from each patient. Results Over the designated period, 138 women received mesotherapy. Of these women, 39, or 28.3%, developed lesions ultimately thought to be caused by Mycobacterium fortuitum infection. The number of lesions per patient varied from 3 to 20 in the most severe case. Most of the lesions were indurated, erythematous or violaceous papules, some progressing to become fluctuant boils with suppuration, fistulization and scarring. The individual lesions varied in diameter from 0.5 to 6 cm. Two patients (5.1%) developed inguinal or axillary adenopathy. Two others presented with fever. One reported muscular pain. In 12 of the 39 cases, M. fortuitum was isolated from the wound cultures. The patients were all successfully treated with clarithromycin and levofloxacin.
Conclusions We identified a large outbreak of rapidly growing mycobacterial lesions among women who received mesotherapy injections in a single beauty salon. © 2009 European Academy of Dermatology and Venereology.
RECORD 266
Self injection of lipase - an extreme case for regulation in non-surgical cosmetic procedures
Khoo A.A.K.-A., Branford O.A., Javaid M.
*Journal of Plastic, Reconstructive and Aesthetic Surgery (2010) 63:1 (e6-e8).* Date of Publication: January 2010

Mesotherapy or subcutaneous fat dissolution for cosmetic purposes has been described using phosphatidylcholine. A literature search found no reports of the use of lipase for mesotherapy. Substances for cosmetic mesotherapy are not licensed for use in the United Kingdom. We report a case of self injection using lipase obtained from the internet. © 2009 British Association of Plastic, Reconstructive and Aesthetic Surgeons.
Mesotherapy involves the use of multiple intradermal or subcutaneous injections of a mixture of compounds in minute doses, by means of very fine needles, directly over/near the affected sites. Originally invented in France to manage painful medical conditions, it is presently the buzz word in the field of cosmetic dermatology, chiefly to get rid of disfiguring fat. Depending upon the condition treated, the drugs injected, the techniques followed and the number of sessions involved vary. The wider reception of mesotherapy by its stakeholders are probably due to factors like inexpensive equipments, relatively minimal training for providers, much reduced dosage need of the drugs with resultant minimal untoward effects, quicker realization of benefits, minimal invasiveness/pain involved and not the least it is an outpatient procedure. Despite so many plus points, it has to be noted that currently there is a dearth of rigorous scientific studies to prove its efficacy and safety. Further, the average cost per session alone ranges from 200 USD to 600 USD.
Oedematous fibrosclerotic panniculopathy (PEFS), so-called "cellulitis" and chronic veno-lymphatic insufficiency (IVLC) are common clinical problems in women. The cause of IVLC and PEFS is still a matter of debate, and therapy for related discomfort of these inaesthetic disease are not yet standardized. Mesoglicano's pharmacologic actions on the endothelium and mesenchyma could improve microvascular circulation, and related subjective symptoms and objective signs in patients with IVLC or PEFS. Local intradermotherapy (ITD), called mesotherapy, with mesoglicano was observed by a retrospective study in order to evaluate tolerability and efficacy in ambulatory setting of aesthetic medicine in the period 2004-2008. Safety, efficacy with clinical and instrumental evaluation, and patient's satisfaction were assessed. Even if many patients referred a good efficacy/tolerability ratio, we need additional clinical studies to more definitively establish guideline for ITD with mesoglicano. ©2010 Pharma Project Group srl.
Mesotherapy is a medical technique that consists of the intracutaneous or subcutaneous injection to the diseased area. It has become a popular treatment method in cosmetic dermatology recently. Mesotherapy has been used in the treatment of skin rejuvenation, cellulite, and localized fat reduction. Substances used in mesotherapy are plant extracts, homeopathic agents, vitamins, and some pharmaceuticals. The effect of these agents is not completely known. There are few experimental and clinical studies evaluating the efficacy of mesotherapy in any form. In this report, it has been reviewed studies about the effect of compounds commonly used in mesotherapy in literature.
Background: Just as injectable fillers have addressed the need for non-surgical methods to restore desired volume, a number of injectable therapies purport to play a comparable role to reduce undesired volume. Objective: To review published literature on the history, mechanism of action, and tissue interaction of injectable methods that aim to reduce localized collections of fat. Results: Mesotherapy is an injection technique that has medical and cosmetic applications and is often confused with injectable fat loss therapies; injection lipolysis describes non-ablative fat reduction with agents (such as β-agonists) that activate adipocyte lipolytic pathways; and adipolytic therapy using biologic detergents (such as deoxychololate) leads to permanent adipocyte ablation. None of these therapies have been cleared for use in fat reduction by any regulatory authority worldwide. Conclusions: The mechanism of action and tissue effects of injectable fat reducing compounds are diverse but are becoming increasingly understood. © 2009 Wiley-Liss, Inc.
Background: Increasing numbers of patients are expressing an interest in mesotherapy as a method of reducing body fat. Cutaneous infections due to rapidly growing mycobacteria are a common complication of such procedures. Methods: We followed up patients who had developed cutaneous infections after undergoing mesotherapy during the period October 2006-January 2007. Results: Sixteen patients were infected after mesotherapy injections performed by the same physician. All patients presented with painful, erythematous, draining subcutaneous nodules at the injection sites. All patients were treated with surgical drainage. Microbiological examination was performed on specimens that were obtained before and during the surgical procedure. Direct examination of skin smears demonstrated acid-fast bacilli in 25% of the specimens that were obtained before the procedure and 37% of the specimens obtained during the procedure; culture results were positive in 75% of the patients. Mycobacterium chelonae was identified in 11 patients, and Mycobacterium frederiksbergense was identified in 2 patients. Fourteen patients were treated with antibiotics, 6 received triple therapy as first-line treatment (tigecycline, tobramycin, and clarithromycin), and 8 received dual therapy (clarithromycin and ciprofloxacin). The mean duration of treatment was 14 weeks (range, 1-24 weeks). All of the patients except 1 were fully recovered 2 years after the onset of infection, with the mean time to healing estimated at 6.2 months (range, 1-15 months).

Conclusions: This series of rapidly growing mycobacterial cutaneous infections highlights the difficulties in treating such infections and suggests that in vitro susceptibility to antibiotics does not accurately predict their clinical efficacy. © 2009 by the Infectious Diseases Society of America. All rights reserved.
The absorption and uptake of recombinant human follicle-stimulating hormone through vaginal subcutaneous injections - A pharmacokinetic study
Hsu C.-C., Kuo H.-C., Hsu C.-T., Gu Q.
Reproductive Biology and Endocrinology (2009) 7 (107) Article Number: 1477. Date of Publication: 7 Oct 2009

Background: Follicle stimulating hormone (FSH) has been routinely used for ovulation induction. Because of rapid clearance of the hormone, FSH is commonly administered by daily intramuscular or subcutaneous injections in in-vitro fertilization (IVF). To reduce the number of visits to the clinic, an intermittent vaginal injection of rhFSH every 3 days employing the concepts of mesotherapy and uterine first-pass effect was invented and has successfully been applied in women receiving IVF treatment. This study was designed to monitor the pharmacokinetic pattern of rhFSH administered vaginally.

Methods: Twelve healthy women with regular ovulatory cycles were recruited. All volunteers received gonadotrophin-releasing hormone agonist to suppress pituitary function and were assigned to receive single dose recombinant human FSH (rhFSH, Puregon 300) either using conventional abdominal subcutaneous injection or vaginal subcutaneous injection in a randomized cross-over study. Serum samples were collected at pre-scheduled time intervals after injections of rhFSH to determine immunoreactive FSH levels. Pharmacokinetic parameters characterizing rate [maximal plasma concentrations (Cmax) and time of maximal plasma concentrations (tmax)] and extent [area under the plasma concentration-time curve (AUC) and clearance] of absorption of rhFSH were compared.

Results: Vaginal injection of rhFSH was well tolerated and no drug-related adverse reaction was noted. Our analysis revealed that tmax was significantly earlier (mean 6.67 versus 13.33 hours) and Cmax was significantly higher (mean 17.77 versus 13.96 IU/L) in vaginal versus abdominal injections. The AUC(0-∞) was 1640 versus 1134 IU·hour/L in vaginal and abdominal injections, respectively. Smaller plasma elimination rate constant (0.011 versus 0.016 hour-1), longer mean residence time (106.58 versus 70.47 hours), and slower total body clearance (292.2 versus 400.1 mL/hour) were also found in vaginal injection.

Conclusion: The vaginal injection mode elicited a rapid and highly extended absorption of rhFSH injected compared to conventional abdominal injection. These data indicate that the rate and extent of FSH absorption from the injection site can vary depending on the route of the FSH administration. © 2009 Hsu et al; licensee BioMed Central Ltd.
Alopecia secondary to mesotherapy
Duque-Estrada B., Vincenzi C., Misciali C., Tosti A.

Mesotherapy has recently become an advertised method for the treatment of different types of alopecia despite the lack of any data regarding its efficacy and possible side effects. The substances injected into the scalp include "cocktails" of natural plant extracts, homoeopathic agents, vitamins, vasodilators, and drugs that may stimulate hair growth, such as finasteride and minoxidil. We report two cases of patchy alopecia that developed after mesotherapy for the treatment of androgenetic alopecia. In the first patient, alopecia developed after injections of the heparinoid vasodilator mesoglycan; the 3-month follow-up examination revealed a small residual area of cicatricial alopecia. The second patient developed reversible alopecia after multiple scalp injections of homeopathic agents. These cases underline the possible risks of mesotherapy as a therapeutic technique for hair loss. © 2009 American Academy of Dermatology, Inc.
Mesotherapy is a treatment method devised for controlling several diseases by means of subcutaneous microinjections given at or around the affected areas at short time intervals. It is used to treat a variety of medical conditions, amongst which all orthopaedic diseases and rheumatic pain. Mesotherapy is especially indicated for neck pain. The mechanism of action is twofold: a pharmacological effect due to the drug administered, and a reflexogenic effect, the skin containing many nerve endings that are sensitive to the mechanical action of the needle. Although this therapy is safe, like any other medical intervention it cannot be considered free of complications that may occur, such as allergies, haematomas, bruising, wheals, granulomas and telangiectasias. Infective complications are also possible, due to pathogenic bacteria that are inoculated through contamination of products, of the materials used for the procedure or even from germs on the skin. We present the case of a patient who had cervical lymphadenopathy due to Pseudomonas aeruginosa after mesotherapy treatment for neck pain.
Mesotherapy is a method of treatment in which small doses of drugs or other biologically active substances are injected into lesions intra and subcutaneously. Mesotherapy was first used in 1952 by the French doctor M. Pistor. Currently this method is widely popular, particularly in aesthetic dermatology. It is a noninvasive procedure, which without surgical intervention produces satisfactory therapeutic results. Mesotherapy may play a role in the treatment of hair disorders, symptoms of skin ageing, scars, keloids, stretches and cellulitis. Intracutaneous injections of biologically active substances increase cell metabolism and stimulate fibroblasts to produce collagen and elastin, influencing microcirculation in the dermis and subcutaneous tissue. Injections of hyaluronic acid cause immediate skin rejuvenation and long-term stimulation of collagen and elastin. Mesotherapy accelerates the process of wound healing, and is used.
Background - Cutaneous infections caused by Mycobacterium fortuitum usually are a complication of trauma or postsurgical wounds. Case report - A 41-year-old woman presented with numerous dusky red nodules, abscesses and sinuses on the right buttock and on the lateral surfaces of both thighs. The lesions developed at the injection sites of mesotherapy treatment. M. fortuitum was cultured from a biopsy specimen and purulent fluid drained from lesions. The lesions had cleared completely with ciprofloxacin 500 mg b.d. for 3 weeks, and then 250 mg b.d. for another 3 weeks. Conclusions - This case demonstrates the importance of suspecting mycobacterial etiology in patients with nodules and abscesses in the areas of mesotherapy treatment. © 2009 The International Society of Dermatology.
Outbreak of nontuberculous mycobacterial subcutaneous infections related to multiple mesotherapy injections

Carbone A., Brossier F., Arnaud I., Bougmiza I., Caumes E., Meningaud J.-P., Dubrou S., Jarlier V., Cambau E., Astagneau P.


We describe an outbreak of severe subcutaneous infections due to nontuberculous mycobacteria following mesotherapy. Epidemiological studies and molecular comparisons of *Mycobacterium chelonae* strains from different patients and the environment suggested that contamination may be associated with inappropriate cleaning of the multiple-injection device with tap water. Copyright © 2009, American Society for Microbiology. All Rights Reserved.
Devices do not achieve their principal intended action in or on the human body by pharmacological, immunological or metabolic means. Liposomes are simple microscopic vesicles made out of the same material as a cell membrane. They can be filled with chemicals and used to deliver these substances in the different areas of human body. Temoporfin is a tetrapyrrrole derivative. For the treatment of cellulite its liposomal formulation has to be applied by several local skin injections using a mesotherapy gun followed at different times by illumination with visible laser light with a wave length of 652 nm and at a light dose of 10 J/cm(2). In subjects with cellulite in different stages it has been demonstrated that mesotherapy with temoporfin liposomal formulation, followed by LED activation, causes improvements of skin thermographyc pattern, of superficial capillary net, and of clinical aspects of skin cutaneous surface. The mechanism of action of temoporfin liposomal formulation is neither pharmacologically nor immunologically or metabolically and it is conform to the requirements for a medical device. It can be concluded that the temoporfin liposomal formulation attains its beneficial effect through a physical mechanism of action: a local increase of temperature.
Mesotherapy is a popular procedure that poses risks that include scarring, contour changes and bacterial infections. The benefits of the procedure remain to be objectively delineated in a placebo-controlled, blinded study. Despite the lack of evidence to support its use, it is marketed as a "nonsurgical and safe" way to remove fat. The authors report a case of mycobacterial infection resulting from mesotherapy. This infection should be considered when a patient presents with a mesotherapy complication and should be discussed with the patient prior to the procedure. Options for treatment of the scarring are considered. © 2009-Journal of Drugs in Dermatology. All Rights Reserved.
The first part of this article familiarizes the reader with the evolution of mesotherapy, injection lipolysis, and the use of phosphatidylcholine and deoxycholate for subcutaneous fat reduction. There is an emphasis on the underlying basic science of fat metabolism and the biochemistry of phosphatidylcholine, so that practitioners will be able to understand future published research on these topics. The second half details some personal experience with injection lipolysis. © 2009.
The authors of "Mesotherapy and Injection Lipolysis" state that the purpose of their article is to familiarize readers with the evolution of mesotherapy, injection lipolysis, and the use of phosphatidylcholine and deoxycholate for subcutaneous fat reduction. The article by Drs. Matarasso and Pfeifer is one of the most extensive, yet most easily understandable reviews of this subject, and it should be required reading for all plastic surgeons who perform procedures for body contour improvement. © 2009 Elsevier Inc. All rights reserved.
Preface
Toledo L.S.

Multiple therapies have been described for skin rejuvenation, including ablative and non-ablative modalities. Nonablative photorejuvenation has become an integral procedure in laser dermatologic surgery. In order to compare the effects of these modalities we evaluated the changes induced by different nonablative procedures on various structures of the skin using computerized histometric and immunohistochemical techniques. Patients (36) of Fitzpatrick skin type III-IV and class I-II wrinkles were subjected to different nonablative techniques for treatment of skin aging, employing 4 approaches with 6 different devices. The first approach included light-based technologies where discrete chromophores are targeted via photothermal mechanisms as intense pulsed light (IPL) and E-Light (combined IPL and RF); the second approach involved modalities with water as the primary chromophore, i.e., 1320 nm Nd:YAG and 1540 nm Erbium:YAG lasers; the third approach uses the creation of stress waves at the skin surface for rejuvenation as radiofrequency (RF) device; as a control, poly-vitamin complex application as mesotherapy injection was used. Standard photographs and skin biopsies were obtained at base line as well as 3 and 6 months after the start of treatment. Blinded photographs were independently scored for wrinkle improvement. E-Light, RF, 1540 nm Erbium:YAG and 1320 nm Nd:YAG produced clinical results, with high patient satisfaction and corresponding facial skin improvement. This was accompanied by increasing collagen content and by improved morphologic appearance of collagen and elastic fibers. Minimal improvement was obtained with IPL and mesotherapy. In conclusion, although the results may not be as impressive as those obtained by ablative treatments, selected nonablative procedures are effective in the treatment of photoaging skin with fewer side-effects and downtime.
The unusual evolution of the practice of injection lipolysis has generated doubt regarding its safety and efficacy among many physicians. During the early years of this decade, mesotherapy was practiced by a few physicians, but the practice was not widespread. Paramedical practitioners and business developers saw the market potential for nonsurgical fat reduction, and the practice of injection lipolysis was packaged and sold before the mechanism of action was understood. Because of the early lack of scientific research and understanding of the limitations of injection lipolysis, many unsuitable patients were treated with this modality. To better understand the way injection lipolysis works, the inclusion and exclusion criteria for patients desiring treatment, and an accurate clinical evaluation format for potential treatment regions, a series of scientific studies was performed in 2007 and early 2008. These studies included a serial histopathology evaluation of treated patients over time, a stem cell study performed with the McGowan Research Institute in Pittsburgh, an animal study performed in conjunction with the Colorado State University veterinary school, and a prospective multicenter clinical trial using injection lipolysis in the back roll region. The purpose of these studies was to determine the way injection lipolysis works, how modifications of the formula and technique change the outcome, the role of each constituent component of various formulas, and the degree of fat reduction and skin retraction that is attainable with these treatments. The influence of depth of injection, distance between injection points, volume of injection, and ratios of constituent components was studied. The degree of topographic contour correction and the amount of volume reduction were evaluated. Following a review of these recent studies, an updated recommendation for the clinical practice of injection lipolysis was formulated. © 2009.
This article outlines the experience of authorities on emerging techniques in plastic surgery that are discussed within this issue, such as mesotherapy and lipodissolve, Russian threads, radiofrequency, and "laser lipo." Readers are invited to analyze the findings and determine whether there is something that could apply to their practices. © 2009 Elsevier Inc. All rights reserved.
Lipodissolve is a relatively new technique of injection lipolysis. Localized areas of fat are treated with the injection of a combination of phosphatidylcholine and deoxycholate. These agents work in concert to reduce fat deposits. The article reviews the results for patients treated with Lipodissolve and other injection lipolysis treatments by Dr. Patricia Rittes, the authors, and other practitioners and researchers. They conclude that properly performed, single-stage surgery that allows the surgeon to address all anatomic levels is preferable to Lipodissolve, pending the results of current and future studies and randomized controlled trials. © 2009 Elsevier Inc. All rights reserved.
Noninfectious granulomatous panniculitis: A complication of mesotherapy—two cases and a review

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Background: Mesotherapy, also known as LipoDissolve or injection lipolysis, is a procedure involving multiple injections into the subcutaneous tissue to promote dissolution of fat deposits for weight loss, cellulite reduction, and body sculpting. Though the solution used for injection varies, phosphatidyl choline (PC) and its emulsifier deoxycholate (DC) are frequently used. This procedure is gaining popularity, and according to a recent report approximately 3000 physicians currently perform this procedure and 30% are dermatologists. The subcutaneous injection of PC/DC has not yet been approved by the US Food and Drug Administration, and its use is debated in the medical community. There are few reports and no clinical trials published in the English language literature on its safety and efficacy. Though there are reports of systemic side effects, local side effects predominate including local erythema, induration, allergic reaction, atrophy, lipodystrophy, bleeding, necrosis, and infection. Recently, five cases of a noninfectious panniculitis following mesotherapy injections have been reported in the literature. Objective: Present two recent cases of noninfectious granulomatous panniculitis following mesotherapy, and review the five previously reported cases. A chart summarizing key features of each case will be used to demonstrate similarities between the cases and to highlight the treatments used and outcomes. Methods: A review of the literature was performed to obtain all published cases of noninfectious granulomatous panniculitis. Results: We present two cases of noninfectious granulomatous panniculitis following mesotherapy injection. In the first case, the injection solution contained deoxycholate, and in the second case the injection solution was unknown. In both cases, the solution was administered by multiple injections to the subcutaneous adipose. For each patient, within 2 months the areas treated developed numerous erythematosus to violaceous, tender, subcutaneous nodules. All tissue cultures were negative. One subject improved with dapsone treatment, and the other with etanercept. Permanent hyperpigmented scars persist in both individuals. In the five previously reported cases, injection materials were unknown or not reported, but patients developed erythematous to violaceous subcutaneous nodules as well. In these five patients, all attempts at culture were also negative. Two had some improvement with oral corticosteroid treatment, and all developed hyperpigmentation and scarring. Limitations: This is not based on a large prospective trial. These cases are rare and have been collected from four different sites. Conclusions: Complications of mesotherapy have been previously described, and many of the reports are of infectious complications following the injections. There are now seven reports of noninfectious granulomatous panniculitis following mesotherapy injections. We present these cases as a rare but devastating complication of mesotherapy.
The importance of caution in the use of unregulated anticellulite treatments
Rotunda A.M., Avram M.M.
Archives of Dermatology (2009) 145:3 (337). Date of Publication: March 2009
Cutaneous granulomatous reaction from mesotherapy
Gokdemir G., Küçükünal A., Sakiz D.
RECORD 290
Updates on mesotherapy products
Actualités sur les produits de mésothérapie
Bechaux S.
Nouvelles Dermatologiques (2009) 28:2 PART 1 (90). Date of Publication: February 2009
Mesotherapy-Associated outbreak caused by mycobacterium immunogenenum
Del Castillo M., Palmero D.J., Lopez B., Paul R., Ritacco V., Bonvehi P., Clara L., Ambroggi M., Barrera L., Vay C.
Emerging Infectious Diseases (2009) 15:2 (357-359). Date of Publication: February 2009
Objective. To evaluate the effectiveness of disodium EDTA administration in the treatment of calcific tendinitis of the shoulder. Methods. Eighty patients with radiographically verified calcific tendinitis of the shoulder were enrolled between September 2001 and October 2003. Patients were randomly assigned to either a study group (n = 40) or a control group (n = 40). Pain and functional level were evaluated before and after treatment and at 1-year followup. Radiographic modifications in calcifications were evaluated before and after treatment. Disodium EDTA was administered through single needle mesotherapy and 15 minutes of pulsed-mode 1 MHz-ultrasound. Results. The study group displayed improvement in all of the parameters analyzed after treatment and at the 1-year followup. Calcifications disappeared completely in 62.5% of the patients in the study group and partially in 22.5%; calcifications partially disappeared in only 15% of the patients in the control group, and none displayed a complete disappearance. Conclusion. Our results suggest that the use of disodium EDTA for the management of calcific tendinitis of the shoulder is safe and effective, leading to a significant reduction in pain, improvement in shoulder function, and disappearance of calcifications after 4 weeks, without adverse effects. © 2009, American College of Rheumatology.
A 67-year-old man developed acute orbital inflammation after receiving cosmetic mesotherapy (Lipo-Dissolve) to the inferior orbital fat compartments. The injection was intended to cause lipolysis and shrinkage of fat lobules with subsequent cosmetic improvement. Injections of a mixture of bile salts, phospholipid, and alcohol preservative bilaterally in inferior orbital fat lobules led to an acute inflammatory reaction characterized histologically 12 days later by mild lymphocytic infiltration, fat necrosis, and fibrosis in the target areas. Benign proliferation of peripheral nerve trunks consistent with a traumatic neuroma was also noted histologically on one side. Inflammation including fat necrosis and traumatic neuroma are all possible consequences of mesotherapy. © 2009 The American Society of Ophthalmic Plastic and Reconstructive Surgery, Inc.
A variety of idiosyncratic reactions have been described secondary to the therapeutic, subcutaneous injection of vitamin K, but little has been reported about reactions to vitamins injected for cosmetic purposes, such as those used in mesotherapy. We present the case of an otherwise healthy 51-year-old woman who received subcutaneous facial injections of vitamin E, which had been extracted from an over-the-counter, liquid-containing capsule, and administered by a foreign-trained dermatologist. The patient was initially asymptomatic but, four weeks after the injections, developed marked, diffuse facial edema and erythema associated with firm, painful plaques and nodules at the sites of injection. Biopsy of one injection site demonstrated a mild, interstitial neutrophilic infiltrate and irregular spaces throughout the reticular dermis lined by PAS-positive, lipomembranelike structures. Basophilic cellular debris and apoptotic cells were scattered both within the tissue and the irregular spaces. There was no evidence of a granulomatous reaction and no fungus or bacteria were identified on PAS and Gram stained sections. The patient was placed on a course of prednisone, which resulted in prompt, near complete resolution of her edema and improvement of the plaques at the sites of injection. Recognition of the clinical and histologic findings associated with subcutaneous injections is of increasing relevance in the age of mesotherapy.
The aim of this study was to evaluate the lipolytic potential of solutions used in the practice of cosmetic mesotherapy to stimulate lipolysis, cause local fat reduction and reduce the appearance of cellulite. The mesotherapy solutions were tested in a human fat cell assay using the fold induction of glycerol generation as a measure of lipolysis. The following mesotherapy solutions were tested: aminophylline; yohimbine; isoproterenol; melilotus; aminophylline with melilotus; aminophylline with isoproterenol; aminophylline with isoproterenol and yohimbine; aminophylline with isoproterenol and lidocaine; and aminophylline with isoproterenol, yohimbine and lidocaine. Isoproterenol (P < 0.002), aminophylline (P < 0.00004) and yohimbine (P < 0.001) stimulated lipolysis compared to the buffer control. The lipolysis stimulated by melilotus (P < 0.01) and isoproterenol (P < 0.002) was enhanced by aminophylline (P < 0.001 and P < 0.001, respectively). The lipolytic stimulation by aminophylline and isoproterenol (P < 0.0009), and by aminophylline and isoproterenol with yohimbine (P < 0.0007) was inhibited by lidocaine, not significant compared to buffer control for aminophylline and isoproterenol, but aminophylline, isoproterenol and yohimbine still stimulated lipolysis more than control, P < 0.05). Isoproterenol, aminophylline, yohimbine and melilotus stimulate lipolysis alone, and lipolysis is further enhanced by combining lipolytic stimulators in mesotherapy solutions. Lidocaine is antilipolytic and should be removed from mesotherapy solutions designed for local fat reduction. © 2008 British Association of Plastic, Reconstructive and Aesthetic Surgeons.
Mesotherapy, originally conceived in Europe, is a minimally invasive technique that consists of the intra- or subcutaneous injection of variable mixtures of natural plant extracts, homeopathic agents, pharmaceuticals, vitamins, and other bioactive substances in microscopic quantities through dermal multipunctures. Its application in cosmetic medicine and surgery is gaining in popularity and acceptance and is rapidly growing in profile at an alarming rate. Despite their attraction as purported rejuvenating and "fat-dissolving" injections, the safety and efficacy of these novel cosmetic treatments remain ambiguous, making mesotherapy vulnerable to criticism by the generally more skeptical medical community. The technique is shrouded in mystery and the controversy surrounding it pertains to its efficacy and potential adverse effects that are subject of much concern. As with any new technology, it is important to assess the benefits, safety, experience, and standardization of mesotherapy. More studies are necessary before it can be advocated as a safe and effective treatment for body contouring and facial rejuvenation. Although the claims made about mesotherapy may be hard to believe at face value, we must be cautious about rejecting new ideas. Just as absence of proof is not proof of absence, lack of scientific validation is not proof that it does not work. © 2008 Springer Science+Business Media, LLC and International Society of Aesthetic Plastic Surgery.
Skin-targeted ultrasound is a noninvasive technique that has been extensively used to evaluate age-related dermal changes, and the presence of a subepidermal low-echogenic band (SLEB) has been related to chronic UVR exposure in several studies. Since SLEB echogenicity is photoage-related, the aim of this study was to evaluate, through ultrasound imaging, the effects on skin photoaging of mesotherapy, a treatment approach currently used in cosmetic dermatology for skin rejuvenation.

Twenty women (mean age: 46.7 range 40-60 years) with physical signs of moderate photoaging on the dorsum of the hands were enrolled and treated with multiple microinjections of hyaluronic acid (HA) salts of biotechnological origin (1.000 Kd) every week for 4 weeks. In all subjects, ultrasound evaluation was performed at each visit and 1 week after the last treatment to evaluate SLEB echogenicity changes during treatment. At the end of study, a statistically significant (p < 0.001) increase of SLEB echogenicity (with a mean increase of pixel numbers equal to 31.3%) was observed in 15 of 19 subjects who completed the study. Our preliminary study suggests that mesotherapy with HA may be an effective treatment for skin photoaging, as confirmed by ultrasound. Follow-up investigations on larger series of patients are necessary to further evaluate the safety, effectiveness, and duration of effect of this possible therapeutic approach to skin photoaging. © 2008 Wiley Periodicals, Inc.
The practice of injecting phosphatidylcholine/sodium deoxycholate compounds into subcutaneous fat is growing rapidly. As with any new procedure, a standard of practice should be developed so that practitioners maintain patient safety as the primary goal. Efficacy and predictability of outcome are another priority. As injection lipolysis, also known as "lipodissolve," becomes more accepted, many standards are being set, such as indications, contraindications, acceptable postinjection sequelae, best regions to treat, regions to avoid, and expected outcomes. This article establishes a basis of practice for the practitioner interested in adding this procedure to his or her repertoire. © 2008 Springer Science+Business Media, LLC and International Society of Aesthetic Plastic Surgery.
Mesotherapy for body sculpting. European staple of reshaping gaining ground here.
Olivero-Rivera L.
Medical spas' menus of services vary widely and depend greatly on the medical director or owner's experience and predilection. Core services include: microdermabrasion, mild chemical peels, medical facials, laser hair removal, photorejuvenation, botulinum toxin, and injectable fillers. Common procedures include cellulite reduction, tissue tightening, and acne treatments. Less common procedures that are more likely to be performed in medical spas with direct on-site daily involvement of the medical director include: laser resurfacing, laser-assisted lipoplasty, sclerotherapy, photodynamic therapy, and cosmetic surgery. Multisite spas often use multi-platform devices to assist with uniformity in menu offerings and training. © 2008 Elsevier Inc. All rights reserved.
Context: Mesotherapy consists of cutaneous injections of a mixture of compounds and has recently been used for cosmetic purposes to reduce local fat and cellulite. To date, several reports have described only local adverse events related to this therapy. We describe the first report of a female patient who developed thyrotoxicosis due to cosmetic mesotherapy with triiodothyroacetic acid in its formulation. Apart from mechanical rupture of the epidermal barrier, a disturbance of type III deiodinase activity or skin fibroblast paracrine function and vascular alterations related to simultaneously injected vasoactive compounds were observed. These findings could be related to thyroid hormone metabolite absorption and systemic consequences in the reported case.

Conclusion: We describe factitious thyrotoxicosis induced by mesotherapy, to raise awareness of a systemic adverse effect resulting from this widespread cosmetic practice. © Copyright 2008, Mary Ann Liebert, Inc.
A complication of mesotherapy: Noninfectious granulomatous panniculitis
Davis M.D.P., Wright T.I., Shehan J.M.
Archives of Dermatology (2008) 144:6 (808-809). Date of Publication: June 2008
Facial cutaneous ulcers following mesotherapy
Al-Khenaizan S.
Facial cutaneous ulcers following mesotherapy: Commentary
Goldberg D.J.
Granuloma annulare as a complication of mesotherapy: A case report
Strahan J.E., Cohen J.L., Chorny J.A.
Delirium with psychotic features possibly associated with mesotherapy
Tor P.-C., Lee T.-S.
Intermittent vaginal injections of gonadotrophins for ovarian stimulation in IVF treatment
Hsu C.-C., Hsu C.-T., Gu Q., Wang S.-T.

Intermittent vaginal administration of recombinant human FSH (rhFSH), for ovarian stimulation in IVF employing the concept of uterine first-pass effect and mesotherapy, was investigated. Injection of rhFSH (437 IU, counted as six ampoules) was carried out every 3 days into the vaginal mucosa of 66 participants receiving IVF treatment between November 2004 and August 2006. The primary outcomes were number of mature oocytes, number of good grade embryos, and term live birth rate (≥37 weeks gestation). On average, 2.94 days of injection and 16.35 ampoules of rhFSH were required to achieve proper follicular growth. Although fewer mature oocytes (5.27 ± 3.69) were retrieved, the number of good grade embryos (3.05 ± 1.95), number of embryos transferred (2.66 ± 1.70), pregnancy rate per cycle started [37.9%; 95% confidence interval (CI), 27.1-49.9], implantation rate (25.5%; 95% CI, 18.0-33.0), and term live birth rate (31.8%; 95% CI, 21.8-43.8) were comparable with conventional IVF treatments in this clinic. © 2008 Published by Reproductive Healthcare Ltd.
BACKGROUND: Despite the increasing interest in mesotherapy as an alternative method for body contouring, there are few reports of its safety, efficacy, and mechanism of action. A clinical examination was performed to evaluate the efficacy of mesotherapy for body contouring.

METHODS: Twenty women were enrolled in this prospective, case-controlled study over a 12-week period. The authors injected a mixed solution (i.e., aminophylline, buflomedil, and lidocaine) into the superficial dermis of the medial aspect of one thigh weekly using a mechanical delivery gun. There was no treatment to the other thigh. The change in the fat level was evaluated by measuring the girth of the thighs and by computed tomographic scanning. The lipid profiles were checked to determine the effect of mesotherapy on lipid metabolism, and questionnaires were used to determine the satisfaction rate of the patients.

RESULTS: The loss of thigh girth on the treated side was not significantly different from that of the untreated side. The computed tomographic scans showed no statistically significant difference in the cross-sectional area or thickness of the fat layer between each group. There were no statistically significant changes in the lipid profiles except for the triglyceride level. A questionnaire asking about the effect of mesotherapy indicated poor patient satisfaction.

CONCLUSION: Mesotherapy is not an effective alternative treatment modality for body contouring. ©2008American Society of Plastic Surgeons.
Mesotherapy for facial skin rejuvenation
Mesoterapia como técnica de rejuvenecimiento facial
Seguí Planelles N., Pascuchi V.E.
RECORD 311

Mesotherapy: mycobacteriosis. Complementary medicine can induce adverse effects.

Cellulite, a skin surface change that is nearly ubiquitous in women, is a condition that remains elusive to treatment. In fact, no treatment is completely successful as none are more than mildly and temporarily effective. Despite the lack of evidence to support efficacy, treatment options continue to proliferate. This article will briefly review the currently available data about cellulite treatments including noninvasive devices such as massage, radiofrequency, and laser and light-based treatments; invasive modalities including liposuction, mesotherapy, and subcision; and other treatments including topical creams and carboxy therapy.
Anti-aging mesotherapy has increased since last ten years with hyaluronic acid associated or not with vitaminic cocktails. We distinguish the mesorejuvenation and the filling mesolift. Products and procedures increase and the technique became essential in the antiaging treatment. © Nouv. Dermatol. 2008.
An outbreak of infections affecting 311 patients who had undergone different invasive procedures occurred in 2004 and 2005 in the city of Belém, in the northern region of Brazil. Sixty-seven isolates were studied; 58 were from patients who had undergone laparoscopic surgeries, 1 was from a patient with a postinjection abscess, and 8 were from patients who had undergone mesotherapy. All isolates were rapidly growing nonpigmented mycobacteria and presented a pattern by PCR-restriction enzyme analysis of the hsp65 gene with BstEII of bands of 235 and 210 bp and with HaeIII of bands of 200, 70, 60, and 50 bp, which is common to Mycobacterium abscessus type 2, Mycobacterium bolletii, and Mycobacterium massiliense. hsp65 and rpoB gene sequencing of a subset of 20 isolates was used to discriminate between these three species. hsp65 and rpoB sequences chosen at random from 11 of the 58 isolates from surgical patients and the postinjection abscess isolate presented the highest degrees of similarity with the corresponding sequences of M. massiliense. In the same way, the eight mesotherapy isolates were identified as M. bolletii.

Molecular typing by pulsed-field gel electrophoresis (PFGE) grouped all 58 surgical isolates, while the mesotherapy isolates presented three different PFGE patterns and the postinjection abscess isolate showed a unique PFGE pattern. In conclusion, molecular techniques for identification and typing were essential for the discrimination of two concomitant outbreaks and one case, the postinjection abscess, not related to either outbreak, all of which were originally attributed to a single strain of M. abscessus. Copyright © 2008, American Society for Microbiology. All Rights Reserved.
The aim of mesotherapy for skin rejuvenation is to increase the biosynthetic capacity of fibroblasts, inducing the reconstruction of an optimal physiologic environment, the enhancement of cell activity, and the synthesis of collagen, elastin, and hyaluronic acid. The desired final effect is a firm, bright, and moisturized skin, and the injection in the superficial dermis of suitable products—perfectly biocompatible and totally absorbable—can achieve these results. In addition to a daily sunscreen application and nonsmoking, mesotherapy is another antiaging strategy helping to maintain a globally firm and bright skin, protecting it from the environmental contributors to aging. © 2008 Elsevier Inc. All rights reserved.
Although suction-assisted liposuction under tumescent anesthesia remains the traditional method for body sculpting, newer technologies promise to increase efficiency, decrease surgeon fatigue, and minimize complication. Power-, ultrasound-, and laser-assisted devices are ideal in large volume cases and in areas of fibrous tissues as an adjunct to traditional liposuction. Although skepticism remains chemical lipolysis, more commonly termed mesotherapy or lipodissolve may be an alternative to surgical treatment of localized fat. This article reviews the recent advancements in the field of liposuction and the current literature which support their use. © 2008 Elsevier Inc. All rights reserved.
Outbreak of persistent cutaneous abscesses due to Mycobacterium chelonae after mesotherapy sessions, Lima, Peru


Outbreaks of rapidly growing mycobacteria have been occasionally described. The article reports an outbreak of cutaneous abscesses due to Mycobacterium chelonae following mesotherapy in Lima, Peru. From December 2004 through January 2005, 35 subjects who had participated in mesotherapy training sessions presented with persistent cutaneous abscesses. Thirteen (37%) of these suspected cases consented to undergo clinical examination. Skin punch-biopsies were collected from suspicious lesions and substances injected during mesotherapy were analyzed. Suspected cases were mainly young women and lesions included subcutaneous nodules, abscesses and ulcers. Mycobacterium chelonae was isolated from four patients and from a procaine vial. In conclusion, it is important to consider mesotherapy as a potential source of rapidly growing mycobacteria infections.
Over the past several years, there has been a growing interest in the treatment method termed mesotherapy. Marketed for nonsurgical fat melting, skin rejuvenation, and hair regrowth, this technique has become increasingly popular and, in the public's view, it is considered to be a relatively benign intervention method. Mesotherapy was introduced over 50 years ago by M. Pistor, a French physician who utilized this technique initially as a novel analgesic therapeutic method for a variety of rheumatologic disorders. Since its introduction, the basic principle of locally injecting subcutaneous doses of varying chemicals has been expanded and is now utilized for the aforementioned cosmetic concerns. With its increased popularity, there has been an increase in the number of reported side effects resulting from mesotherapeutic intervention. We report multifocal scalp abscesses with subcutaneous fat necrosis as a direct result of mesotherapy; therefore, requiring extensive surgical repair.
Complications from repeated injection or puncture of old polyacrylamide gel implant sites: Case reports
El-Shafey E.-S.I.

Polyacrylamide gel has been used for soft tissue augmentation outside the United States since 1997. Despite some adverse events, the long duration of the augmentation and the tangible filling effect has increased its use in Asia and the Middle East. In this era of mesotherapy and fillers, patients are more likely than ever to have additional injections. The response of old polyacrylamide gel implant sites to puncture or repeated injection has not been reported previously. A total of 12 cases were treated for acute inflammation after puncture of polyacrylamide gel implants with injection needles or minor surgical intervention. The duration of augmentation after the initial injection was from 6 months to 4 years. Acute inflammation followed a certain pattern. Patients presented with pain, swelling, redness, and significant induration after puncture of the dormant implant. Resolution was achieved gradually with drainage, empirical antibiotics, and antiinflammatory agents in 1 to 2 weeks. Cultures of removed gel were negative. The cause of inflammation was difficult to define, but a definite link to puncture of the implant could be found in all patients. Puncture of the implant violates the tissue-implant barrier and induces inflammation or introduces bacteria that are not detectable in culture but may contribute to inflammation in the presence of the filler material. Further research is needed to assess the inflammation observed with repeated puncture of old polyacrylamide gel implants and its implications. In the meantime, patients should be warned about the possibility of inflammation in the case of puncture or surgery to the implant site, even years after the polyacrylamide gel injection. © 2007 Springer Science+Business Media, LLC.
One of the ways of treating EPF (edematofibrosclerotic panniculitis) is to carry out cycles of intradermal mesotherapy involving the injection of simple drug cocktails with lipolytic and vasoprotective action. The authors decided to verify the possibility of administering the same drugs transcutaneously by means of dermoelectroporation. This method consists of the application to the skin of special-designed drug-delivery units that emit controlled, low-intensity electrical impulses, thus causing the opening of particular intercellular cutaneous channels (hydroelectric pores) through which the active molecules are transmitted. The following report provides the history of 23 cases chosen for EPF treatment of the lower limbs (trochanteric areas) with weekly application of a lipolytic and vasoprotective drug cocktail. The final results confirm the effectiveness of dermoelectroporation for the transcutaneous administration of drugs used for the local reduction of EPF and of localized adiposity.
A particular form of septic arthritis: Septic arthritis of facet joint
Michel-Batôt C., Dintinger H., Blum A., Olivier P., Laborde F., Bettembourg-Brault I., Pourel J., Loeuille D., Chary-Valckenaere I.

Only about 40 cases of septic arthritis of the facet joints have been reported to date. We report 6 new cases including 2 at the cervical spine, which is rarely involved. Mean age was 61.5 years; there were 5 men and 1 woman. Spinal pain and stiffness, fever, and asthenia were the presenting manifestations. Laboratory tests consistently showed inflammation. Among classical risk factors for infection, only noninsulin-dependent diabetes was noted, in a single patient. Mean time to the diagnosis was 42 days. Discitis, a far more common condition, was considered initially, and early radiographs were of limited diagnostic assistance. Radionuclide bone scans identified the site of the infection and served to look for other foci. Magnetic resonance imaging was effective in confirming the diagnosis at an early stage and in looking for local spread (muscles, epidural space, and disk). L3-L4 was involved in 3 patients, C4-C5 in 2, and L4-L5 in 1. Direct inoculation during mesotherapy sessions was the cause in 1 patient. Cultures of blood and needle biopsy samples were positive in all 6 cases; Staphylococcus aureus was the causative agent in 3 patients. The risk of local and systemic complications governs the prognosis of facet joint infection. Of our 6 patients, 4 experienced complications: there was 1 case each of discitis, epidural infection, endocarditis, and septic arthritis of the acromioclavicular joint. Fatal multiple organ dysfunction occurred in 1 patient. In the other 5 patients, antimicrobial therapy and protection from weight-bearing for 3 months ensured a favorable outcome. © 2007.
Background: Excess skin and fatty tissues beneath the jaw lead to a double chin deformity. Localized fat deposits in this area are a cause of discomfort and anguish, leading patients to undergo surgical procedures such as liposuction and dermolipectomy to improve the cosmetic effect. Both procedures require anesthesia and an operating room setting and are quite expensive. Fearful of extensive surgery and its complications, patients and physicians seek less invasive methods. Mesotherapy with phosphatidylcholine and other cocktails have been used to treat localized fat deposits. However, there are few published articles regarding its effectiveness and some are even anecdotal. Objective: This study aims to determine the efficacy of phosphatidylcholine alone vs. phosphatidylcholine and organic silicium in submental fat reduction. Methods: Twelve patients with submental fat deposit with no coexisting morbidity and with informed consent were included in the study. They were submitted to one to five treatment sessions with an average interval of 2 weeks between each session. The medication administered was injected, either pure phosphatidylcholine or a combination of phosphatidylcholine and organic silicium. Baseline measurements of submental fat using vernier caliper and digital photographs of the patients were taken during each treatment session. The occurrence of adverse effects was likewise noted. Results: Among the 12 patients, 11 completed the treatment course, and 1 was excluded from the study because of failure to follow up. Both phosphatidylcholine and a combination of phosphatidylcholine and organic silicium were equally effective in reducing submental fat deposits. There was no significant difference as to the rate and degree of reduction. Significant reduction in the thickness of submental fat was achieved after three treatment sessions. Adverse reactions in both groups were mild and transitory ranging from heavy sensation, localized heat, nodulations, and slight bruising that abated 3 to 5 days after treatment. Limitations: As of this writing, information on the use of both phosphatidylcholine and organic silicium for mesotherapy of localized fat such as the submental area is scarce. The exact mechanisms of action of both treatments are likewise unknown. Ultrasound and histopathological changes were not documented. The study did not involve a double-blind, placebo-controlled design, and the sample size was small. Conclusion: Mesotherapy using phosphatidylcholine vs. phosphatidylcholine plus organic silicium was similarly effective in reducing submental fat. There was no significant difference between them in terms of rate and degree of reduction. Optimal reduction of submental fat was achieved after three treatment sessions. Adverse reactions were few, mild, and transitory. Therefore, both regimens are safe, efficacious, cost-effective, and can be used as alternatives to invasive surgical procedures. © 2007 Blackwell Publishing.
RECORD 323
Sporotrichosis following mesotherapy for arthrosis
Gamo R., Aguilar A., Cuétara M., Gonzalez-Valle O., Houmani M., Martín L., Gallego M.A.
Extensive scars modify the patient's life. Significant scarring causes functional and cosmetic deformities, discomfort and psychological stress. We report a teenager, who suffered from burning when she was two months old. She has been under scar treatment combining several methods such as peeling, mesotherapy, manual dermoabrasion and ultrasound. Up to now, we improved the patient's life quality, obtaining a clinical improvement, such as aesthetic and psychological one.
Introduction: Mesotherapy is a cosmetic therapeutic modality very popular in Brazil, which proposes to reduce local fat and cellulite using injections at fat layer of skin. Local treatment might avoid systemic adverse effects. Components most found are methylxantins, sympathomimetics, enzymes, and triiodothyroacetic acid (tiratricol). Safety and efficacy of this treatment are not approved by Medical societies, and tiratricol is prohibited in Brazil. Several local side effects have been already described. However, systemic effects were not found in the literature. Case report: A 36-year-old woman with minor thalassemia complained of anxiety, inappetence, nausea, and dizziness during the previous 4 months. Her body mass index was 21 kg/m², heart frequency 84 bpm, and thyroid was impalpable. Electrolytes, glycemia, and hepatic function were all normal, except hemoglobin, which was low (10.6 g/dL). TSH was suppressed (<0.01 mU/L), with low FT4 (0.34 ng/dL, NV 0.7-1.7). Factitious thyrotoxicosis was suspected and every oral medication or cream formulation was denied. However, the patient had been under cosmetic mesotherapy, with injection applications in buttocks and legs every week for the past 6 months. The compounds of the formulations were pentaxofilline 20 mg/mL, mesocaine 2%, green tea 10 mg/mL, ginko biloba 20 mg/mL, caffeine 5 mg/mL, l-carnitine 50 mg/mL, and tiratricol 700 mg in 5 mL final volume. There were no skin infection signs. Twenty days after the last injection, hormonal tests were repeated: suppressed TSH, TT4 1.6 ng/dL (NV 4.5-12.0), TT3 235 ng/dL (NV 70-200), and thyroglobulin 7 ng/mL (NV 2-70). Fivemonths after stopping the injections, thyroid function was completely normalized. Discussion: Oral tiratricol abuse is a known cause of factitious thyrotoxicosis and in cream improves atrophy induced by glucocorticoids. Absorption, distribution, and metabolism after cutaneous injections have never been performed. We described factitious thyrotoxicosis induced by mesotherapy with tiratricol to alert for undescribed systemic adverse effects, as this cosmetic practice is widespread.
Lipoplasty of the face and neck
Doerr T.D.

PURPOSE OF REVIEW: Facial aesthetic surgery has gained wider acceptance and demand for it is increasing. Patients seeking a more youthful facial look often request lipoplasty. This article reviews the recent advances in lipoplasty and related fat contouring for the face and neck. RECENT FINDINGS: Lipoplasty of the face and neck continues to be popular. There have been improvements in instrumentation, with laser and powered lipoplasty improving the efficiency of fat removal. Lipoplasty indications for neck lipodystrophy have been extended to patients previously only offered neck lifting. Additionally, limited procedures for patients with isolated anterior neck deformities, including direct lipectomy and skin excision, are gaining in popularity. Considerable attention in the lay and professional literature has been paid to mesotherapy for dissolving unwanted fat. Evidence supporting its efficacy is elusive. Finally, there remains enthusiasm for injection fat transfer for facial volume restoration as a component of rejuvenation. SUMMARY: The treatment of lipodystrophy of the face and neck involves the removal of undesirable fat and the transfer of fat to other areas to produce improved aesthetic results. With the current emphasis on restoring volume, lipoplasty and fat transfer will continue to be important in facial plastic surgery. © 2007 Lippincott Williams & Wilkins, Inc.
We wanted to investigate whether Diosmin may enhance the beneficial effects achieved in the topical treatment of edematous-fibrosclerotic panniculopathy ("cellulitis") either with traditional methods (injective mesotherapy) or with new technologies, such as the EPOREX K69 that allows the transdermal vehiculation of drugs. An observational study has been therefore performed on 60 patients with soft/edematous cellulitis, randomly allocated to three groups and treated with: a) traditional mesotherapy; b) transdermal vehiculation of drugs; c) transdermal mesotherapy in association with Diosmin 900 mg/die, which was continuously given since one month before the beginning up to one month after the end of treatment with mesotherapy. The results have been extremely positive for all the patients and, in particular, for the third group of patients treated with Diosmin, which have shown the most interesting results, such as a higher than 2-cm reduction in the thigh circumference in comparison with the other groups, as well as a significant reduction in the number of telangiectasis and subcutaneous inflammatory reaction. These results have been confirmed in the follow-up, being still evident three and six months after the end of treatment. © Copyright 2007, CIC Edizioni Internazionali.
Nontuberculous mycobacteria infection after mesotherapy: Preliminary report of 15 cases
Sañudo A., Vallejo F., Sierra M., Hoyos J.G., Yepes S., Wolff J.C., Correa L.A., Montealegre C.,
Navarro P., Bedoya E., Sanclemente G.


Background: Mesotherapy is an increasingly used technique which is currently causing several mycobacterial infections owing to contaminated substances being injected, and also to poor aseptic measures being held by nonprofessional practitioners. Patients and methods: We collected 15 cases of nontuberculous mycobacteria (NTM) infection after mesotherapy in a 6-month period. Results: All patients were female with ages ranging from 19 to 52 years; the main substances injected were procaine and lecithin, and the time between mesotherapy and the appearance of the lesions varied between 1 and 12 weeks. Clinical lesions were mostly nodules and abscesses, which were localized in the abdomen and buttocks in the majority of cases. The main patient complaint was local pain but some presented with systemic symptoms such as fever and malaise. Biopsies reported granulomatous chronic inflammation in the majority of cases. Skin cultures were positive for NTM and *Mycobacterium chelonae*. Discussion and conclusions: Mesotherapy not performed with quality controlled substances can be a predisposing factor for NTM infection. © 2007 The International Society of Dermatology.
Dr. Pistor developed the technique of mesotherapy in France in 1952. In 1987, mesotherapy was recognized by the French Academy of Medicine as a medical specialty. Mesotherapy is the injection of different medications due to different purposes into the skin, cartilage, muscle and fat tissues, which originate from mesoderm layers in utero. Currently, mesotherapy has become a very popular technique for medical conditions such as rheumatoid arthritis, gout, asthma, depression, migraine and sports injuries and cosmetic purposes such as cellulites, face and neck rejuvenation, body sculpture and hair loss problems throughout the world. Various injectable materials are used for different purposes. While phytological and pharmacological agents are used to control inflammation in rheumatoid arthritis, connective tissue activators such as silica, biotin and proteolytic enzymes are used for ligament tears and tendon degenerations. In cellulites, in addition to vasodilators that improve blood flow, lymphatic flow activators and lipolytic agents are also used. The number of mesotherapy sessions differs according to the problem itself, the mechanism and the duration of the problem. For chronic conditions such as cellulites and wrinkles at least 15 sessions should be performed. In acute cases, such as sports injuries 1-3 sessions are generally adequate. In chronic conditions, the injections should be performed once a year or every six months. The aim of this review was to answer the frequent questions about this method: any information in this review should not be considered a suggestion. Copyright © 2007 by Türkiye Klinikleri.
Mesotherapy: Can it be a cause of perforator flap failure? [21]
Demirkan F., Tutuncu N., Sari A., Arslan E.

*Plastic and Reconstructive Surgery (2007) 119:3 (1137-1138).* Date of Publication: March 2007
Mesotherapy is gaining popularity as an easy means of fat removal and body sculpting. Concerns centering on the safety and efficacy of mesotherapy are valid, and scientific data are lacking. As with any new technology, it is important to assess the benefits, safety, experience, and standardization of mesotherapy.
Action of sodium deoxycholate on subcutaneous human tissue: Local and systemic effects - Commentary
Rotunda A.M.
Mesotherapy is a technique which involves microinjections of conventional homeopathic medication and/or vitamins into the mesoderm or middle layer of the skin to promote healing or corrective treatment to a specific area of the body. It is a debatable addition in the therapeutic armamentarium in the management of skin rejuvenation. However, dermatologists have to use this cautiously and judiciously as at present there is a lot of controversy regarding its efficacy and safety despite the fact that mesotherapy is gaining popularity in the West.
Histological evaluation of the skin after exposition to the gel increased of hyaluronidase associated or not to ultrasound

The objective of this work was to verify the effect in the skin of male swines gel (G) containing hyaluronidase (H) associated or not to ultrasound (US). In different areas was applied G; G+US; G+H; G+H+US and mesotherapy (M). Skin fragment was processed in paraffin. To evidence hyaluronic acid (HA) coloration with Alcian Blue (AB) was used and coloration with Hematoxilin/Eosin for morphometry. It was observed that G+H and G+H+US did not reduce coloration for the AB nor presented significant differences for the morphometry. When H was applied mesotheraphycally coloration for the AB diminished. Then, the use of H associated or with US did not seem efficient in the HA reduction.
Long before mesotherapy was used in cosmetic dermatology, it gained recognition in pain management, sports medicine, and rheumatology. In the aesthetic arena, it had few indications and unimpressive results and was used mainly to treat cellulite. However, as the demand for more effective noninvasive cosmetic surgery treatments grows, the popularity of mesotherapy continues to increase nationwide. The latest spike in popularity is due to 2 newly created applications. One is the mesolift, also known as mesoglow, which consists of injecting a mixture of vitamins, minerals, and hyaluronic acid into the skin. The other is the injection of phosphatidylcholine and enzymes (collagenase and hyaluronidase) to treat fat deposits for body sculpting. Thus, US fascination with mesotherapy has been limited to its aesthetic applications. When mesotherapy was introduced to the United States, the procedure was much less aggressive in terms of the ingredients used and the volume of those ingredients as a result of heavy French influence. However, US physicians quickly adopted their own methods and variations on the procedure, and the approach changed radically because of a major difference in the mentality, habits, and expectations between the markets. Today, mesotherapy in the United States has products and protocols that are original and much more efficient. For once, innovation in aesthetic medicine, which usually travels from east to west, is now crossing the Atlantic in the opposite direction. In this article, we will explain some of these products and protocols. Before proceeding, it is important to mention that there have been no controlled studies of mesotherapy to date, although one is reported to be under way in the United States. Physicians rely mostly on anecdotal experience until the results of such studies are published. Therefore, although it is true that there has been no systematic evaluation of toxicity, there are no reports of such adverse events despite the wide use of mesotherapy today. However, this does not necessarily mean that mesotherapy is completely safe, and dermatologists must keep in mind that no aesthetic treatment should in any way endanger a patient's health—"first, do no harm."
BACKGROUND AND OBJECTIVE: Mesotherapy, as broadly defined, represents a variety of minimally invasive techniques in which medications are directly injected into the skin and underlying tissue in order to improve musculoskeletal, neurologic, and cosmetic conditions. There are few clinical studies evaluating the efficacy and safety of mesotherapy in any form. This study evaluates the histologic and clinical changes associated with one of the simplest formulations of mesotherapy commonly used for skin rejuvenation.

STUDY DESIGN: Ten subjects underwent four sessions of mesotherapy involving multiple injections of a multivitamin and hyaluronic acid solution. Treatment was conducted at 4 monthly intervals. All subjects had pre- and post-treatment photographs and skin biopsies. Skin biopsies were evaluated with routine histology, mucin and elastin stains, and electron microscopy. Patient surveys were also evaluated.

RESULTS: Evaluation of photographs at 0, 3, and 6 months revealed no significant clinical differences. Light microscopic examination of pre- and posttreatment specimens showed no significant changes. Electron microscopic analysis of collagen fibers measurements did show smaller diameter fibers posttreatment.

CONCLUSION: No significant clinical or histologic changes were observed after multivitamin mesotherapy for skin rejuvenation. Multivitamin and hyaluronic acid solution facial mesotherapy does not appear to provide any significant benefit. © 2006 by the American Society for Dermatologic Surgery, Inc.
Efficacy and safety of a new natural cream versus a classic gel in the treatment of haematoma resulting from mesotherapy or skin bio-stimulation

Pinelli S., Schianchi R., Beretta D., De Micheli P.

Aim. Mesotherapy is a treatment to stimulate the repair of mesoderm, connective tissues and adipose tissue affected by cellulitis. Other aesthetic-cosmetic condition for problems such as fotoaging can be treated with skin bio-stimulation. Both mesotherapy and skin bio-stimulation could evidence haematoma on the treated areas. The aim of the study was to evaluate the efficacy and safety of a new cream formulated with natural ingredients: arnica, escina fitosoma, pineapple and bromeline (product A) versus a classic gel: rutosidea, sodium-calcium-metilgalattopoliphosphate (product B) for the reabsorption of haematoma resulting from mesotherapy or skin bio-stimulation treatments. Methods. This was a prospective, open-label, randomized, comparative and monocenter clinical study in patients affected by panniculopathia edemato fibrosclerotica (PEFS) or fotoaging with evidence of haematoma caused by mesotherapy or skin bio-stimulation treatments. Patients were treated with product A or with product B three times daily for 12 days. Efficacy and safety were assessed after 6 days of treatment and at the end of therapy. Furthermore the history of haematoma was recorded and a diary was filled out daily by each patient. Results. Twenty-six female out patients (16 in the product group A and 10 in the product B group) were enrolled. At baseline no significant differences of mean age, kind of treatment, colour of haematoma, spontaneous pain and pain with pressure were registered. The mean size of haematoma was higher in the product B group (2.03 cm) than in the product A group (1.26 cm) while nodules were noticed in more patients (62.5%) treated with product A than in patients of the other group (40%). Haematoma was observed mainly on the face (50% and 40% in the product A and product B respectively) and on trochanteric area, internal surface of the knee, neck and ankle. Product A promoted reabsorption of haematoma and relief of pain within six days of treatment. Some improvements of haematoma and pain were in favour of a better efficacy of product A. Haematoma dimension disappeared significantly in more patients of product A group (56.2% vs 10%) after 6 days of treatment and in the other cases the induction in patients of the product A group was 76.6% in comparison with 58.1% in the product B group. Also the injured area cleared in more patients treated with product A (50% vs 10%) at 6 days and the difference was statistically significant. Patients of product A recovered more rapidly than the product B ones. In most part of patients (80%) discoloration of haematoma was registered within 4 days in the product A group and after 4 days in the other group. Nodules disappeared in all patients of both groups within 5 or 6 days of treatment. The relief of pain was observed within 4 or 5 days of treatment in the product A and product B groups respectively. No adverse events were noticed in any patient. Global physician's and patient's assessment were good in 56.2% and excellent in 43.8% of patients of product A group. Conclusion. Product A showed good efficacy and safety and appeared to be an effective and well tolerated alternative to product B for the reabsorption of haematoma resulting from mesotherapy or skin bio-stimulation and its activity hastened the cure of the disease.
Systemic lupus erythematosus after mesotherapy with acetyl-L-carnitine [1]
Colón-Soto M., Peredo R.A., Vilá L.M.
Obese individuals often suffer from negative self-image. Many, even those with a normal body mass index, resort to pharmacotherapy (lipase inhibitors or appetite suppressants), mesotherapy and surgery (gastric volume reduction, liposuction or apronectomy) in a bid to remove excess adipose tissue. These treatments are associated with inherent morbidity and even mortality, and hence should not be undertaken lightly. The observation that denervation of adipose tissue results in lipoatrophy leads us to postulate that chemodenervation using botulinum toxin may achieve the same result, i.e. fat loss, and we explore the methods by which selective fat loss may be achieved. We concede that removal of subcutaneous fat does not, however, reduce the risks associated with the metabolic syndrome, as visceral (intra-abdominal) fat is not reduced by the removal of subcutaneous fat. © 2006 Elsevier Ltd. All rights reserved.
Mesotherapy, which has been compared to the anti-wrinkle injection Botox, has only recently become popular in the United States for providing body contouring and spot weight loss. Most adverse reactions associated with mesotherapy are mild and transient, and supporters of the procedure consider it a safer alternative to liposuction. Mainly owing to the absence of safety and efficacy data pertaining to mesotherapy, liposuction is currently the only method for fat removal that is endorsed by the American Society of Plastic Surgeons. Although mesotherapy has been used as a treatment for pain syndromes, arthritis, and many other disorders, this article focuses on its cosmetic applications.
We describe the treatment of two frostbite cases made in a very isolated village and with little health means. This happened with two sherpas during important ascents to the eight thousand meters peaks close to the glacier of Baltoro which are part of the Karakorum mountains in Pakistan. We report the good results obtained using the injected vasodilator medication by means of mesotherapy technique associated in both cases to the conventional oral medication and complemented in one of them by a small amputation of the residual zone of necrosis.
During the "Hot Topics" seminar at The Aesthetic Meeting 2006, authors polled participants to gain insight into how plastic surgeons evaluate current hot topics. Here are the results as well as the authors' notes on additional presentations. © 2006 American Society for Aesthetic Plastic Surgery, Inc.
Hope springs eternal in the human breast, more so concerning our desire to stay or appear young. Non surgical options for facial rejuvenation are fast emerging as quick, effective and simpler options to achieve the desired goal. Various options are now available for dealing with the myriad of aesthetic ageing problems of the face, including programs of topical lotions & creams, 'Botox' for reducing wrinkles, fillers to fill in the scars and fixed rhytides, thread lifts as a quicker option to conventional face lifts in selected patients, facial peels and/or laser resurfacing to achieve a smoother, tighter and more youthful skin, non ablative laser rejuvenation tackling the triad of vascular, pigmentary and laxity components of the ageing facial skin, and lastly, but not in the least mesotherapy, which may emerge as a revolutionary technique to rejuvenate the ageing skin.
Outbreaks of rapidly growing mycobacterium (RGM) infections are increasingly being reported worldwide. Information about genetic relatedness of isolates obtained during outbreaks can provide opportunities for prompt intervention. Pulsed-field gel electrophoresis (PFGE) is expensive, time consuming, and labor intensive. Other than that, Mycobacterium abscessus isolates can suffer DNA degradation during electrophoresis. Polymerase chain reaction (PCR)-based methods are cheaper, faster, and easier to perform, but discriminatory power varies depending on the primer used. In this study, we tested the competence of enterobacterial repetitive intergenic consensus (ERIC) PCR in comparison with PFGE to distinguish unrelated isolates (24 Mycobacterium chelonae and 24 M. abscessus) obtained from human and/or environmental samples and to group 56 isolates from 6 outbreaks confirmed epidemiologically, caused by M. chelonae and M. abscessus after ophthalmologic refractive surgery and mesotherapy. Enterobacterial repetitive intergenic consensus PCR presented discriminatory power, calculated using Simpson's index of diversity, of 0.989 for M. abscessus and 0.975 for M. chelonae and grouped outbreak isolates in distinct groups showing epidemiologic concordance. Pulsed-field gel electrophoresis also grouped outbreak isolates and presented discriminatory power of 0.972 and 0.993 for M. abscessus and M. chelonae, respectively. DNA from 8 (22%) of 36 M. abscessus isolates analyzed showed degradation during electrophoresis. Compared with PFGE and epidemiologic information as the gold standard, ERIC PCR is a simple, high throughput, affordable, reproducible, and discriminatory molecular typing method for inference of genetic relatedness of RGMs of the M. chelonae-abscessus group. © 2006 Elsevier Inc. All rights reserved.
INTRODUCTION. Mesotherapy is widely used in Latin America for cosmetic purposes, particularly in obese individuals. We describe the clinical and epidemiological characteristics, microbiological diagnosis, treatment and follow-up of patients from Caracas (Venezuela) with soft tissue infection caused by non-tuberculous mycobacteria following mesotherapy. METHODS. Between March 2002 and December 2003, we evaluated 49 cases of skin and soft tissue infection following mesotherapy. Specimens obtained from the lesions and 15 products used in the mesotherapy procedure were cultured for the presence of non-tuberculous mycobacteria. Isolated mycobacteria were identified by PCR restriction fragment length polymorphism analysis of the hsp65 gene. RESULTS. Infection by non-tuberculous mycobacteria was confirmed in 81.6% of the 49 cases. Mycobacterium abscessus and M. fortuitum were the most common species, but M. chelonae, M. peregrinum, M. simiae and a new species that was designated "M. cosmeticum" were also isolated. Patients were treated with species-specific antibiotic agents for 3 to 18 months. Investigation into the source of the infection revealed that 21 patients were clustered within 3 different outbreaks and two products were found to be contaminated with M. fortuitum and M. abscessus, respectively. CONCLUSIONS. Physicians should be alerted to the possibility of infection by non-tuberculous mycobacteria in patients with a history of mesotherapy who develop late-onset skin and soft tissue infection, particularly if they do not respond to conventional antibiotic treatment.
BACKGROUND: Mesotherapy was originally conceived in Europe as a method of utilizing cutaneous injections containing a mixture of compounds for the treatment of local medical and cosmetic conditions. Although mesotherapy was traditionally employed for pain relief, its cosmetic applications, particularly fat and cellulite removal, have recently received attention in the United States. Another treatment for localized fat reduction, which was popularized in Brazil and uses injections of phosphatidylcholine, has been erroneously considered synonymous with mesotherapy. Despite their attraction as purported "fat-dissolving" injections, the safety and efficacy of these novel cosmetic treatments remain ambiguous to most patients and physicians. OBJECTIVE: To distinguish mesotherapy from phosphatidylcholine injections by reviewing their history and the relevant experimental or clinical findings. METHODS: A comprehensive search of Medline indexed literature and conference proceedings. RESULTS: All the published studies evaluating the clinical efficacy of traditional mesotherapy currently originate from Europe. These reports focus primarily on musculoskeletal pain and vascular disease, rather than cosmetic applications. Although experimental data suggest that a number of traditional mesotherapy ingredients may theoretically reduce fat, these effects have not been supported in peer-reviewed studies. An increasing number of reports demonstrate that subcutaneous injections of a formula containing phosphatidylcholine combined with its emulsifier, deoxycholate, are effective in removing small collections of adipose tissue. Cell lysis, resulting from the detergent action of deoxycholate, may account for this clinical effect. CONCLUSIONS: Mesotherapy is distinct from a method of treating adipose tissue with subcutaneous injections of deoxycholate alone or in combination with phosphatidylcholine. Additional clinical and experimental studies are necessary to more definitively establish the safety and efficacy of these treatments. © 2006 by the American Society for Dermatologic Surgery, Inc. • Published by Blackwell Publishing.
Background: Mesotherapy is a procedure involving the injection of substances into the dermis and subcutaneous tissue. Used in Europe for decades in the treatment of various medical conditions and cosmetic fat dissolution, the technique only recently became widely available in the United States. Mesotherapy has been surrounded by controversy pertaining to efficacy and has been associated with localized complications, including allergic reactions, necrosis, and infections. Panniculitis is a rare adverse reaction to mesotherapy that may result from injection pressure, local trauma, or the type of injected substances. Objective: Treatment options for complications are limited. We report a case of mesotherapy-induced panniculitis successfully treated with dapsone. Conclusion: This case illustrates one of the potential adverse effects of mesotherapy and suggests that dapsone may be effective in the treatment of panniculitis resulting from such injections. Reported adverse effects associated with mesotherapy are also reviewed.
A method has been developed of injecting gonadotrophins vaginally every 3-4 days, to reduce both the dose and frequency of injections. A couple with primary infertility for 5 years with a previous failed IVF cycle was recruited. A total dose of 1200 IU gonadotrophins was administered in three injections. Ten mature oocytes were recovered and six fertilized two-pronuclear stage zygotes resulted. The patient conceived after replacement of three good quality embryos.
The science of mesotherapy: Chemical anarchy

Brown S.A.


The author stresses that to date, the effects of mesotherapy have not been scientifically evaluated. Currently, there is no standardization of dosage and no protocol or treatment algorithm to enable prediction of how much tissue or fat will be "dissolved" with a specific solution in a defined quantity, and injected at a specified subcutaneous tissue depth. Copyright © 2006 by The American Society for Aesthetic Plastic Surgery, Inc.
Background. Cellulite describes the cutaneous dimpling of the thighs, buttocks, and hips that is seen predominately in women. Current evidence suggests that structural differences in fat architecture between the sexes account for its appearance. Mesotherapy, a method of delivering medication locally with the use of numerous cutaneous injections, has recently become a popular method to purportedly treat the condition. Methods. An overview of cellulite and adipocyte physiology, with a literature review and appraisal of compounds commonly used in mesotherapy. Results. Experimental studies using individual mesotherapy ingredients for other conditions suggest a number of mechanisms, including lipolysis, disrupting connective tissue and augmenting circulation, which may theoretically improve cellulite. Peer-reviewed studies have not evaluated whether these effects translate clinically. Conclusions. Until further studies are performed, patients considering mesotherapy for cellulite must be aware that the substances currently being injected to treat this cosmetically disturbing, but medically benign, condition have not been thoroughly evaluated for safety or efficacy. © 2005 Taylor & Francis.
Knuckle pads are firm, well-defined plaque-like lesions that most often appear over the proximal interphalangeal joints of hands. They develop gradually over months to years and then may persist permanently. Knuckle pads usually appear in children or adolescents. They are most often idiopathic and sporadic, but may be related to trauma or inherited. A 21-year-old man was admitted to the Department of Dermatology because of the presence of symmetric, sharply defined hyperpigmented and hyperkeratotic cushion-like pads located over proximal interphalangeal joints of both hands. First lesions appeared 2 years ago. The patient was a student and he was not working physically, although he was riding a bicycle regularly and several times daily, as a matter of habit, he interlocked his fingers and then applied a pressure. In patient other fibromatoses such as Ledderhose disease, Peyronie disease or fibrosis of the male breast were not present. Family history for the presence of similar skin lesions was negative. Histology of the lesion demonstrated thickening and hyperkeratosis of the epidermis and oedema of the dermal collagen bundles. Mesotherapy with triamcinolone acetonide was employed. Although the patient did not present with other fibromatoses and the family history for the presence of knuckle pads was negative, the lesions aroused at the age of 19 years, trauma appeared to play a role in their development and the clinical and histological picture was suggestive for knuckle pads. Copyright © 2005 Cornetis.
Mesotherapy is a treatment involving local subcutaneous injections of minute quantities of various substances (e.g., vitamins or plant extracts) for cosmetic purposes (e.g., fat and wrinkle reduction or body contouring) or relief of musculoskeletal pain. In February 2005, the Virginia Department of Health and CDC were notified of a cluster of skin reactions unresponsive to antimicrobial therapy among patients who had been administered mesotherapy by an unlicensed practitioner in the District of Columbia (DC) area. This report 1) summarizes the subsequent investigation by CDC and state and local health departments in Virginia, Maryland, and DC, which identified prolonged skin reactions in 14 patients, and 2) provides recommendations for practices related to mesotherapy. Patients should accept medical therapy only from licensed practitioners and should not permit injection of substances that have not been approved by the Food and Drug Administration (FDA). Licensed practitioners should follow safe-injection practices when practicing mesotherapy and patients should observe that safe-injection practices are followed.
Abdominal haematoma - A mesotherapy complication [2]
Brandão C., Fernandes N., Mesquita N., Dinis-Ribeiro M., Silva R., Viana H.L., Dias L.M.
Acta Dermato-Venereologica (2005) 85:5 (446). Date of Publication: 2005
Mesotherapy for body contouring
Matarasso A., Pfeifer T.M.
Mesotherapy: What is it? Does it work?
Rohrich R.J.
We compare the results obtained after local administration of oxygen-ozone (O2-O3) with those of anti-inflammatory mesotherapy in patients with painful shoulder, tendinopathies and entrapment syndromes. O2-O3 was significantly more effective than mesotherapy in relieving painful shoulder and pubic pain without side effects which did occur in patients treated by mesotherapy. Oxygen-ozone therapy is a valid treatment for inflammatory and degenerative diseases of the musculoskeletal apparatus.
Purpose of review: Bacillus Calmette-Guérin (BCG) vaccination has been performed since 1921, and remains the best method of preventing severe infections caused by Mycobacterium tuberculosis. Tuberculosis, in its various forms, remains a public health problem, and more than 100 countries continue BCG vaccination in an effort to control the disease. Since the initiation of BCG vaccination, numerous complications have been reported. In this review we will focus on the cutaneous complications of BCG vaccination. Recent findings: Recent case reports detail the development of large keloids, and also of juvenile sarcoidosis after BCG vaccination. Adverse outcomes from inadvertent intradermal injection of the forearm and from revaccination with BCG have also been reported. Other recently described skin complications subsequent to BCG vaccination include lupus vulgaris, delayed granuloma formation, cutaneous BCG infection in immune disorders, anterior chest wall mass, acute erythroderma with multiple skin abscesses, ulceration at the BCG site during Kawasaki disease, fixed drug eruption, and cutaneous abscesses following mesotherapy. Summary: BCG vaccination will continue to be a key method of preventing severe tuberculosis infections for the foreseeable future. The World Health Organization currently recommends BCG vaccination for all infants living in tuberculosis endemic areas. As such, it is important for health care providers to recognize the routinely anticipated cutaneous findings of the vaccination, in addition to complications relating to the injection. Subsequent care of these skin complications is of paramount importance to the health of these patients. © 2005 Lippincott Williams & Wilkins.
Mesotherapy is a form of medical therapy popular in Europe and South America. It is used for treating a variety of medical conditions, including the treatment of localized fat deposits and cellulite. Phosphatidylcholine/ deoxycholate injections are a popular technique to treat localized fat accumulations and have recently become synonymous with mesotherapy, although their history and technique are distinct. To treat localized fat deposits, phosphatidylcholine (PC) and deoxycholate (DC) are utilized. To date, there have been no published histological studies that explain the mechanism of action of PC and DC. Method. In this study the authors have obtained skin biopsies from a patient who had undergone mesotherapy with PC and DC. Punch biopsies were taken at one and two weeks after the procedure. Results. Each of the biopsies taken at one and two weeks after treatment with PC and DC showed a normal epithelium and dermis, with a mixed septal and lobular panniculitis. The fat lobules were infiltrated by increased numbers of lymphocytes and, in particular, macrophages. The macrophages consisted of conventional forms, foam cells, and multinucleated fat-containing giant cells. The inflammation was associated with serous atrophy and microcyst formation. Conclusion. This study demonstrates that mesotherapy with PC and DC affects the subcutaneous fat. We theorize that the reduction of subcutaneous fat likely follows inflammatory-mediated necrosis and resorption. © 2005 Taylor & Francis Group Ltd.
A case of panniculitis following mesotherapy
Seon M.Y., Yong B.C., Kyu J.A.

Mesotherapy was first introduced in France by Pistor in 1952. This is a widely used technique of intradermal or subcutaneous microinjections of a highly diluted drug, or cocktail of drugs. The use of mesotherapy is commonplace in medicine, especially in painful disorders of the locomotory apparatus. The technique has also been employed in cutaneous affections and esthetical conditions such as keloids and hypertrophic scars, acne, psoriasis, vitiligo, wrinkles, alopecia areata and hair loss, cellulitis, lipodystrophy, obesity, telangiectasias, lymphedemas, peripheral vascular diseases, and leg ulcers. A 24-year-old woman presented with painful eczematous subcutaneous nodules located at the points where mesotherapy had been applied. Histologically, it showed panniculitis with acute inflammation, aggregation of neutrophils, and fat necrosis. We report an unusual case of panniculitis after mesotherapy.
Letter to the editor: Subcutaneous nodules showing fat necrosis owing to mesotherapy [2]
Lee D.P., Chang S.E.
Dermatologic Surgery (2005) 31:2 (250-251). Date of Publication: February 2005
The aim of this research was to evaluate histologically the skin of swines submitted to mesotherapy with tiratricol, caffeine and hyaluronidase. Histological processing was conducted in Hematoxilin and Eosin (HE) of the skin of swines treated being obtained measures of thickness of the hipodermis using a Zeiss ocular micrometer. It was verified that the treatments with tiratricol and caffeine provoked reduction of the thickness of the hipodermis (42.3% and 55.3%, respectively, p<0.05). The mesotherapy with hyaluronidase did not present significant results (17.5, p>0.05).
Cutaneous infections due to atypical mycobacteria are varied. Their prevalence appears on the rise. The contamination comes from the environment following a breaking, even minimal, of the cutaneous barrier. Mesotherapy, particularly when performed using a mechanical device, is a well recognized iatrogenic origin of this type of microorganism inoculation.
Cellulite affects 85-98% of post-pubertal females of all races. While not a pathologic condition, it remains an issue of cosmetic concern to a great number of individuals. Despite its high prevalence, there have been few scientific investigations into the physiology of cellulite. There have only been a few dozen peer-reviewed articles devoted to cellulite in the medical literature in the past 30 years. There is no definitive explanation for its presentation. This greatly complicates the ability to treat or improve it. The four leading hypotheses that purport to explain the physiology of cellulite include: sexually dimorphic skin architecture, altered connective tissue septae, vascular changes and inflammatory factors. Treatment modalities can be divided into four main categories: attenuation of aggravating factors, physical and mechanical methods, pharmacological agents and laser. There are no truly effective treatments for cellulite.
Localized urticaria pigmentosa triggered by mesotherapy
Bessis D., Guilhou J.-J., Guillot B.
Four isolates of a rapidly growing Mycobacterium species had a mycolic acid pattern similar to that of Mycobacterium smegmatis, as determined by HPLC analyses. Three of the isolates were from footbath drains and a sink at a nail salon located in Atlanta, GA, USA; the fourth was obtained from a granulomatous subdermal lesion of a female patient in Venezuela who was undergoing mesotherapy. By random amplified polymorphic DNA electrophoresis and PFGE of large restriction fragments, the three isolates from the nail salon were shown to be the same strain but different from the strain from the patient in Venezuela. Polymorphisms in regions of the rpoB, hsp65 and 16S rRNA genes that were shown to be useful for species identification matched for the two strains but were different from those of other Mycobacterium species. The 16S rRNA gene sequence placed the strains in a taxonomic group along with Mycobacterium frederiksbergense, Mycobacterium hodleri, Mycobacterium diernhoferi and Mycobacterium neoaurum. The strains produced a pale-yellow pigment when grown in the dark at the optimal temperature of 35 °C. Biochemical testing showed that the strains were positive for iron uptake, nitrate reduction and utilization of D-mannitol, D-xylose, iso-myo-inositol, L-arabinose, citrate and D-trehalose. The strains were negative for D-sorbitol utilization and production of niacin and 3-day arylsulfatase, although arylsulfatase activity was observed after 14 days. The isolates grew on MacConkey agar without crystal violet but not on media containing 5% (w/v) NaCl or at 45 °C. They were susceptible to ciprofloxacin, amikacin, tobramycin, cefoxitin, clarithromycin, doxycycline, sulfamethoxazole and imipenem. The name Mycobacterium cosmeticum sp. nov. is proposed for this novel species; two strains, LTA-388(T) (=ATCC BAA-878(T)=CIP 108170(T)) (the type strain) and 2003-11-06 (=ATCC BAA-879=CIP 108169) have been designated, respectively, for the strains of the patient in Venezuela and from the nail salon in Atlanta, GA, USA. © 2004 IUMS.
Naturopathic pain management
Barker J.E., Meletis C.D.
One case in a 46-year-old man was reported. Painful nodules with ulcers developed on lower limbs. Classical antibiotics were inefficient. Standard biological investigations were normal. Histopathology showed dermal epithelioid cell granuloma. Search for acid-fast organisms and for leishmania was negative. Cultures and PCR were negative. A new antibiotic regimen against presumed atypical mycobacteria was introduced: ofloxacin (400 mg/day) and clarythromycin (1 g/day) during 6 weeks, then alone clarythromycin during the next 4 weeks. Six months later, the patient remained cured. During this time, two other patients had the same condition following mesotherapy performed by the same physician. Cultural identification was unsuccessful.
Introduction. Infectious complications following mesotherapy are usually due to ordinary bacteria or atypical mycobacteria. We report two new cases of mycobacterial bovis BCG infections following mesotherapy. To our knowledge only one case has already been reported. Cases reports. A 52 year-old woman developed vaccinal MERIEUX BCG cutaneous abscesses following mesotherapy. Identification was made by a novel class of repeated sequences: Mycobacterial interspersed repetitive units. Despite prolonged anti-tuberculous therapy, complete remission was not obtained and surgical excision was performed. The second case was a 49 year-old man who developed a mycobacterial bovis BCG cutaneous abscess (Connaught) after mesotherapy, the regression of which was obtained with anti-tuberculous therapy. Discussion. The severity of these two mycobacterial infections following mesotherapy illustrate the potential risks of mesotherapy. Identification is possible by molecular biology techniques (PCR and sequencing). The origin of this infection is unclear and therapeutic decision is difficult. Some authors recommend anti-tuberculous therapy but surgical excision may be necessary as in our cases.
Background. In recent years mesotherapy has been used on a wide scale. The purpose of the present paper is to assess its validity in the treatment of lumbo-sciatic pain syndrome. Methods. Forty-four patients hospitalised at the V Orthopaedic Clinic of the University 124 of Milan, Istituto Policlinico San Donato for acute non-compressive lumbo-sciatic pain syndrome were subdivided into two random groups. In addition to the codified standard therapy, one group received a cycle of mesotherapy with administration of acetylsalicylic acid; the other a cycle of mesotherapy with administration of a physiological solution. A continuous analogic system of pain assessment was used to evaluate the effectiveness of the treatment. Cases in which the symptomatology declared during an evaluation carried out 4 hours after mesotherapy showed a diminution up to a value equal to or less than 3/5 of that measured before the therapy were considered positive; all other cases were considered negative. Results. The difference between positive and negative results in the two groups was statistically significant only after the first administration and was no longer so after subsequent cycle administrations. Conclusions. The responses obtained, however, show a trend line in favour of the effectiveness of mesotherapy as collateral therapy in the treatment of acute lumbo-sciatic pain syndrome.
Efficacy and tolerance of the antihomotoxic mesotherapy in sports injuries was examined in a retrospective study. One hundred and fifty-eight athletes with different traumata were treated with mesotherapy using a combination of Traumeel and Zeel, in some cases plus Spascupreel. In 81% of the cases the injury was cured or improved distinctly. Regarding those injuries that were cured completely in most cases a maximum of 4 sessions was sufficient. No side effects were noticed.
Psoriasis and side-effects of mesotherapy
Rosina P., Chieregato C., Miccolis D., D'Onghia F.S.
Cutaneous infection with rapidly growing mycobacteria is uncommon. The clinical, histopathological and bacteriological features are not particularly distinctive and diagnosis may be difficult. A patient from the State of Bahia, Brazil with atypical cutaneous mycobacteriosis due to Mycobacterium fortuitum after mesotherapy for regional lipodystrophy ("cellulitis") is presented. The importance of considering mycobacteria in the pathogenesis of chronic cutaneous disease is stressed.
Mesotherapy is a treatment method devised for controlling pain syndromes or diseases by subcutaneous microinjections given at or around the involved areas at short intervals of time. Different adverse effects have been described due to this modality of treatment. This report describes 3 patients with cutaneous infection caused by Mycobacterium fortuitum after mesotherapy. Three women, aged 24, 27 and 44 years, presented with similar clinical features, consisting of painful nodules located at the points where mesotherapy had been applied. A smear from a skin biopsy revealed the presence of acid-fast bacilli in all 3 cases. The specimen was cultured and eventually identified as M. fortuitum. A multidrug long-term regimen (combinations of 3 drugs from the following: ciprofloxacin, cotrimoxazole, clarithromycin and amoxicillin-clavulanic acid) was needed to achieve resolution of the lesions. After 15, 25 and 26 months of follow-up, no patient relapsed. Mycobacterium fortuitum is a rapidly growing mycobacterium that can lead to cutaneous infection after minor surgical procedures when aseptic measures are not adequate. Multiple drugs for several months are usually needed to treat this disease successfully.
Background: There is an increase in the number of patients presenting at physiatric out-patient clinics with the sequelae of cervical 'whiplash' injuries. The variety of the symptoms (dizziness in particular) and the paucity of clinical signs complicate the assessment of disability, of its natural history and of the medical-legal aspects. Rehabilitative Medicine is called into play during the post-acute stage. The real efficacy of the previously proposed interventions remains under debated.

Methods. In the present study, patients with the sequelae of cervical trauma underwent on objective, repeatable assessment with the aim of providing a basis on which to compare the outcomes of two different therapeutic approaches: mesotherapy and antalgic instrumental physiotherapy. The investigation was conducted in 50 patients. Inclusion criteria were: no history of previous major vestibular and visual pathologies; a persistent subjective 'feeling of instability'; no evidence of conditions of the locomotor system affecting the upright posture; the absence of focal lesions of the CNS, the presence of at least one pathologic stabilometric test result. Protocol: physiatric examination; stabilometric test; randomised prescription of therapy based on two different protocols; examination and stabilometric test following treatment. Results. Comparison of the healthy/pathological posturographic data (track length and area) proved to be statistically significant; thus, static posturography is a valid evaluation method. The comparison of patients before and after treatment was not significant. Conclusions. Neither of the two therapeutic modalities induced any significant objective improvements, even though both had an extremely positive subjective effect.
The article is intended to treat the anatomical structures from which back pain arouses and the physiological mechanisms of its production. Then we deal with some of the most used devices for physical therapy (TENS, termotherapy, EMG-Biofeedback) and their principles. Finally we examine the role of local injective therapy (ozonetherapy, infiltrations, mesotherapy).
The authors approach mesotherapy emphasizing the action mechanism, the indications, the types of material utilized and methodology to follow. Stands out the inexistence of scientific studies that clarify the doubts surrounding this new therapeutic weapon.
Disturbance fields or foci are often the cause for chronic diseases. Residual disturbance fields can be found after insufficient revitalization of primary disturbance fields or as a result of the healing subsequent to accidents, metabolism disorders, infectious diseases, vaccinations and others. In this paper it will be reported on the emergence of a focus and on diagnostic possibilities of its detection with the bioelectronic diagnosis. Biomedical therapies, especially with nosodes, homoeopathics, combination preparations and organ preparations will be presented. Their usage follows mostly according to the results of bioelectronic testing. A stabilization of the therapeutic success takes place with vitamin and mineral preparations as well as trace elements according to orthomolecular medicine. The combination of medicinal and sub-molecular therapeutic measures in the form of - as developed by the authors - 'pharma auricular medicine' and pharma acupuncture' with mesotherapy is being shown.
This study examines the question of the treatment of painful cervical post-distortion syndromes. Given that the results of traditional medical and rehabilitative therapy are often thought to be insufficient, mesotherapy was employed using a mixture of active ingredients, including Thiocolchicoside, Lidocaine and Ketoprofen lysine salt. Treatment was administered using an outpatient regime which ensured an optimal cost/benefit ratio. Mesotherapy is indicated in contractural forms without complications caused by severe radiculopathies and plexopathies, associated with irritation of the cervical sympathetic nervous system. A group of 50 patients were selected for this study who complained of persistent algo-contractural syndromes in spite of the usual orthopedic and rehabilitative treatment. Mesotherapy was performed during an average of 2-3 sessions held at weekly intervals; no collateral effects of note were observed. Subjective improvement was evaluated by the patients themselves, using a pain assessment scale and in relation to the persistance or otherwise of neurovegetative disorders. From an objective point of view, improvements in joint excursion were evaluated before and after the first two sessions. After 2-3 sessions, patients showed both subjective and objective progress, leading to the substantial or complete reduction of pain and vegetative disorders, as well as a net improvement in joint excursion and function. In conclusion, mesotherapy is a low cost treatment which can achieve rapid improvements, thus forming an important therapeutic tool available to the orthopedist and physiatrist.
The treatment of pathologic calcification of shoulder tendons with E.D.T.A. bisodium salt by mesotherapy

Il trattamento delle tendinopatie calcifiche di spalla con E.D.T.A. sale bisodico per via mesoterapica.

Soncini G., Constantino C.


The Authors treated at the Physiotherapy Service of the Clinic Orthopedic in Parma, 31 patients affected by shoulder's calcific tendonpathie++ were treated with E.D.T.A. bisodium salt they were painful and showed functional restriction besides they all shared a crystal's hydroxyapatite deposition. It was considered the pain by the Scott-Huskisson analogous--visual scale and the radiographic variation of calcification. It was noticed that with minimum pharmacological doses satisfying therapeutical results were achieved. That was not only as far as pain was concerned (disappeared in 29 patients (93.5%), but it was also obtained a significant reduction (4 patients 13%) or in some cases the disappearing of calcifications (25 patients 80%).
The case records of 390 patients consecutively admitted in the mesotherapy consultation at the Sao Jose's Hospital were reviewed, trying to determine the most frequent diseases and the benefits of this therapy. The results indicate a higher prevalence of the female sex, between the ages of 31 and 60. The tendinitis were the most common pathologies. On most cases the patients received less than 5 treatment sessions and 93.8% showed substantial benefit.
Introduction. Mesotherapy is an alternative medical process defined by the intradermal injection of small amounts of pharmacological substances. It has been associated with the development of mycobacterial infections.

Case report. A 80-year-old woman presented with a Mycobacterium bovis infection of the face following mesotherapy. Genome analysis of the mycobacterial strain isolated from a skin lesion using pulse-field gel electrophoresis demonstrated the presence of a vaccinal strain identical to the one employed by the same physician to vaccinate a child two hours before.

Discussion. Given the severity of mycobacterial infections following mesotherapy and given the lack of evidence about its efficacy, mesotherapy should not be performed on the face. Standardisation of aseptic measures in the daily medical practice could prevent such infectious complications.
During last years several patients with renal failure were admitted in Brussels hospitals. The progressive interstitial fibrosis with tubular atrophy seen in these patients has been ascribed to the slimming therapy preceding the pathology. The nephropathy was remarkable with regard to its extensive fibrotic process and the rapidity of its evolution. The ingestion of Aristolochia fangchi instead of the prescribed Stephania tetrandra, one of the components of the slimming therapy, was put forward as hypothesis for the etiology of the nephropathies in the literature. Questions however remain unanswered: Why have certain persons, among thousands similarly treated including ingestion of Aristolochic acids, not withstood the treatment? Why is there no correlation between the length of treatment and the occurrence nor the degree of illness? Last but not least: It is in the actual conditions possible to be confident again in slimming treatments as the concerned one? We made an overview of the pharmacological action and possible (nephro) toxicity of the known components of the concerned therapy. Concerning the Chinese plants we have described and commented on the procedures for quality control actually at disposal and the difficulties in differentiation between resembling species and possible substitute herbs. We have described largely the traditional and medicinal use of the involved Chinese plants as to evaluate their implication in the nephrotoxicity. The elements of the therapy possibly relevant in the etiology of the disease are mentioned. The overview shows that different elements of the therapy are hazardous. Attention is caught to the danger of the use of (Chinese) herbs of unknown origin when nor the indications nor the form of preparation - in this case decoctions - are respected and when the quality cannot be assured, due to lack of (official) operating procedures. Medicinal plants as those implied contain secondary metabolites ((bis)-benzylisoquinoline-alkaloids, dihydroxy-diallyl-biphenyls, aristolochic acids) with strong pharmacological (and possibly toxic) actions. Attention is caught to the danger of alternative therapies as mesotherapy. Products are injected which are not proved safe for this administration way. The administration during long periods of cocktails with anorectics (fenfluramine and diethylpropion) in association with a diuretic, a tranquilizer, plants with laxative and atropinergic action are alike to be at the origin of susceptibility in the excretion system. Under these circumstances exposure to any toxic product might cause renal failure. Several years have passed after the scientific reports of the first nephropathy cases in Belgium. We are afraid that prohibiting (temporarily) three Chinese herbs (Stephania tetrandra, Aristolochia fangchi and Magnolia officinalis) does not provide enough safety in order to assume responsibilities for common health care. Keeping in mind that these treatments were not meant to cure any disease but only for slimming, we ask Belgian authorities to regulate strictly the use of (Chinese) herbal medicines, the products and practices in alternative practices as mesotherapy and cocktail-treatments.
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Violon C.
Journal de Pharmacie de Belgique (1997) 52:1 (7-27). Date of Publication: January/February 1997

During last years several patients with renal failure were admitted in Brussels hospitals. The progressive interstitial fibrosis with tubular atrophy seen in these patients has been ascribed to the slimming therapy preceding the pathology. The nephropathy was remarkable with regard to its extensive fibrotic process and the rapidity of its evolution. The ingestion of Aristolochia fangchi instead of the prescribed Stephania tetrandra, one of the components of the slimming therapy, was put forward as hypothesis for the etiology of the nephropathies in the literature. Questions however remain unanswered: Why have certain persons, among thousands similarly treated including ingestion of Aristolochic acids, not withstood the treatment? Why is there no correlation between the length of treatment and the occurrence nor the degree of illness? Last but not least: Is it in the actual conditions possible to be confident again in the slimming treatments as the concerned one? We made an overview of the pharmacological action and possible (nephro) toxicity of the known components of the concerned therapy. Concerning the Chinese plants we have described and commented on the procedures for quality control actually at disposal and the difficulties in differentiation between resembling species and possible substitute herbs. We have described largely the traditional and medicinal use of the involved Chinese plants as to evaluate their implication in the nephrotoxicity. The elements of the therapy possibly relevant in the etiology of the disease are mentioned. The overview shows that different elements of the therapy are hazardous. Attention is caught to the danger of the use of (Chinese) herbs of unknown origin when nor the indications nor the form of preparation - in this case decoctions - are respected and when the quality cannot be assured, due to lack of (official) operating procedures. Medicinal plants as those implied contain secondary metabolites ((bis)-benzylisoquinoline-alkaloids, dihydroxy-diallyl-biphenyls, aristolochic acids) with strong pharmacological (and possibly toxic) actions. Attention is caught to the danger of alternative therapies as mesotherapy. Products are injected which are not proved safe for this administration way. The administration during long periods of cocktails with anorectics (fenfluramine and diethylpropion) in association with a diuretic, a tranquilizer, plants with laxative and atropinergic action are alike to be at the origin of susceptibility in the excretion system. Under these circumstances exposure to any toxic product might cause renal failure. Several years have passed after the scientific reports of the first nephropathy cases in Belgium. We are afraid that prohibiting (temporarily) three Chinese herbs (Stephania tetrandra, Aristolochia fangchi and Magnolia officinalis) does not provide enough safety in order to assume responsibilities for common health care. Keeping in mind that these treatments were not meant to cure any disease but only for slimming, we asks Belgian authorities to regulate strictly the use of (Chinese) herbal medicines, the products and practices in alternative practices as mesotherapy and cocktail-treatments.
In order to deepen our knowledge of rheumatic patients on spa therapy through the treatments they use otherwise, a guestionnaire investigation was led in September'88 among 379 patients of the National Thermal Baths in Aix-les-Bains: 28% males, mean age 53,25, with degenerative joint disease accounting for 97% of cases, NSAI-drugs intake similar to that of rheumatic patients questioned by the French Society of Rheumatology network in 1985. The survey was focused on 8 therapies, 3 of which were considered as 'classic' and 5 as related to 'alternative medicines'. The 3 'classic' ones proved to be mostly used: pain-killers (62%), NSAI-drugs (57%), massage and physical therapy (40%). 12% to 19% of patients were undergoing 'alternative medicines'; in decreasing order: trace-elements, homeopathy, acupuncture, chiropractic spine manipulation, mesotherapy. They were used by 43% of patients (5% on their own, 38% combined with 'classic' treatments), which is more than FSR network's patients did. In the opinion of patients, 'classic' treatments are more effective than 'alternative' ones, except for chiropractic spine manipulation prevailing over NSAI-drugs. It turns out from the study that spa therapy is more favourably considered than other treatments.
Mesotherapy-induced lichenoid eruption [1]
ERUPTION LICHENOIDE INDUITE PAR LA MESOTHERAPIE [1]
Grojean M.-F., Vaillant L.
Urticarial reaction to ethylenediamine in aminophylline following mesotherapy

Urbani C.E.

Contact Dermatitis (1994) 31:3 (198-199). Date of Publication: 1994
Observations on the administration of sodium edetate in calcified scapulohumeral periarthritis. Ionophoresis and mesotherapy: Comparison of two techniques

CONSIDERAZIONI SULL'IMPIEGO DEL SODIO EDETATE NELLA PERIARTRITE SCAPOLO OMERALE CALCIFICA. IONOFORESI E MESOTERAPIA: DUE TECNICHE A CONFRONTO

Capone M., Stancati M.T., Tolla V., Chiatti R., Muscolo V., Pasquale M.

The calcified shoulder pain is a widely diffused pathology, daily confronted both by specialists and physicians. We wanted to value both the possibility to act on the calcifying process and if modification of the calcification could influence the clinical behaviour. We have therefore selected 50 patients by calcified shoulder pain which had resisted to the common treatments both FKT and pharmacological; to these patients we propined sodium-edetate, which is a substance that nips calcium, following two different strategies of administration. In fact 30 patients have been given the sodium-edetate through ionophoresis while the remaining 20 have been given the same medicine through the mesotherapy technique. The study was protracted for about 24 months and for each patient we valued the articular mobility before and after the treatment, we administered X-rays and we analysed the development of the pain symptomatology. The treatment has been given ambulatorially because none of the patients required admission to a hospital. The brilliant results obtained through both techniques are analysed in this work, in fact about 80% of the patients responded positively to the treatment. According to the results we obtained we believe we can consider the use of the substance that nip for the calcium extremely useful in the calcified shoulder pain especially if we consider that our sample was made of patients that has resisted to the common treatments.
RECORD 391
Cutaneous complication of mesotherapy: Ten new case reports
COMPLICATION CUTANEE DE LA MESOTHERAPIE: A PROPOS DE DIX NOUVEAUX CAS
Roth M., Prigent F., Martinet C.
In 1952, Pistor presented a new technique to treat 'cellulitis' and local fat accumulation. Traditional mesotherapy and infiltration thermomesotherapy can treat, comparatively quickly, most of the signs of this disease of the subcutaneous fat. An appropriate combination of traditional drugs is heated to 40°-45° and its pH made 7-7.2 with Sodium Dicarbonate; this produces a reflex or perhaps immune response in tissues and stops their progression towards sclerosis. This is an easy technique, requiring only sterility and a good hand to avoid the pain on injection. A diet must always be associated as directed by a physician, together with draining physiotherapy. Subsequent liposuction is made easier with less risk, complications and sequelae. Maintenance thermomesotherapy is routinely performed every 1-2-6-12 months as required. The weight must be kept under control and pictures of the patient are taken regularly.
Cutaneous infection mycobacterium chelonei after mesotherapy, forensic incidence

INFECTIONS CUTANÉES A MYCOBACTERIUM CHELONEI APRES MESOTHERAPIE.

INCIDENCE MEDICO-LEGALE

Ruto F., Jarde O., Labeille B., Denoeux J.-P.

*Journal de Medecine Legale Droit Medical (1994) 37:3-4 (269-274)*. Date of Publication: 1994
Side effects of mesotherapy: Report of three cases

Menaguale G., Ciciarello A., Fazio R., Fazio M.

RECORD 395
Treatment of chronic cancer pain. Contribution of acupuncture, auriculotherapy and mesotherapy
Traitement de la douleur chronique cancéreuse séquellaire. Apport de l'acupuncture, de l'auriculothérapie et de la mésothérapie.
Brulé-Fermand S.
Soins; la revue de référence infirmière (1993) :568 (39-40). Date of Publication: Jan 1993
RECORD 396
Lichenoid drug reaction induced by mesotherapy
TOXIDERMIE LICHENOIDE APRES MESOTHERAPIE
Vaillant L., De Muret A., Muller C., Machet L., Lorette G.
We report the results of a retrospective inquiry concerning atypical cutaneous mycobacterioses in France over the last 5 years. Ninety-two cases were observed, contracted from aquariums (50 p. 100), in swimming pools (4.4p. 100) and as a result of mesotherapy (15.2 p. 100); 66.3 p. 100 of the patients had no other pathology; 17.4 p. 100 were immunodepressed. Bacteriological examination was positive in 44.7 p. 100 of the cases; swabbing, scratching and puncturing were better than biopsy to obtain a bacteriological culture. Mycobacteria were identified in 59.8 p. 100 of the cultures. In order of frequency, the pathogens were Mycobacterium marinum (from aquariums), M. chelonae (from iatrogenic lesions) and M. avium-intracellulare (in immunodepression). M. fortuitum, M. ulcerans, M. flavescens, M. haemophilum and M. kansasii were rare. The formation of epithelial giant-cell granulomas was observed in patients without any other pathology. Non-specific infiltration was found in patients with immunodepression and bacteriological examination was often positive in those with non-specific infiltrates. The treatment of atypical cutaneous mycobacterioses is always difficult; third generation tetracyclines and antibacterial combinations are often prescribed, but the results of in vitro tests are not reproducible in vivo. New antibiotics, such as clarithromycin, quinolones, ansamycin and clofazimine, are currently being tested.
Skin lesions due to mesotherapy
COMPLICANZE CUTANEE DA MESOTERAPIA
Murgia S., Pau M.
_Chronica Dermatologica (1991) 1:6 (813-819)._ Date of Publication: 1991
TENS + mesotherapy association in the therapy of cervico-brachialgia: preliminary data
L'associazione TENS + mesoterapia nella cura delle cervicobrachialgie: dati preliminari.
Palermo S., Riello R., Cammardella M.P., Carossino D., Orlandini G., Casigliani R., Launo C.
The effectiveness of mesotherapy in the treatment of the 'painful shoulder in the hemiplegic patient' has been evaluated in a group of 44 elderly hemiplegic subjects. This method, which is based on pharmaco-reflexological principles, allows to achieve a significant lessening of the painful symptoms affecting the arm concerned, both at rest and after either active or passive mobilization, so that the elderly patient's compliance with the physical reconditioning treatment improves.
Mesotherapy in chronic post-distorsive pain of the lower extremity in sport

LA MESOTERAPIA NELL'ALGIA CRONICA POST-DISTORSIVA DELL'ARTO INFERIORE NELLO SPORT

Ferrata P., Caniggia M., Morreale P., Bandinelli I.

Mesotherapy-induced paniculitis

PANICULITIS POR MESOTERAPIA

Pujol R.M., Veliz C., Alejo M., De Moragas J.M.

Actas Dermo-Sifiliograficas (1991) 82:3 (157-161). Date of Publication: 1991
Is mesotherapy without hazards?
La mésothérapie, est-elle sans danger?
Deleixhe-Mauhin F., Nikkels A., Paquet P., Goffin F., Piérard-Franchimont C., Piérard G.E.
Controlled trial of injectable diclofenac in mesotherapy in the treatment of tendinitis

Menkes C.J., Laoussadi S., Kac-Ohana N., Lasserre O.

The efficacy of mesotherapy and physiokinesiotherapy in patients suffering from chronic back pain

Amadori L., Checchia G.A., Vignoni A., Gazzi A.


Authors relate satisfactory results obtained with mesotherapy and phisiokinesiotherapy in patients suffering from chronic back pain associated with the so called 'cellulalgic lumbar armour'.
In usual stomatologic surgery, after the intervention, the antibiotic cover is preserved but the classical anti-inflammatory cover is replaced by a unique session of multi-micro-injections of injectable Voltaren around the sutures into the mucous membrane. The results are similar on oedema, better on pain and this obtained with about ten times less NHAI, so much the better for side-effects.
Mesotherapy is a method of treatment in which subcutaneous infiltrations are given loco dolenti at short intervals of time. In this way a mixture of readily available drugs is administered. There are many indications for mesotherapy, although most applications are found in the field of the osteo-articular affections. As yet there is no scientific explanation for the effect of this therapy. Studies on this subject are currently being performed.
RECORD 409
Thiomucase injections in the mesotherapy of cellulitis
INTERET DE LA THIOMUCASE® INJECTABLE EN MONOTHERAPIE DANS LE
TRAITEMENT DE LA CELLULITE PAR MESOTHERAPIE
Multedo J.-P., Fyot P.
RECORD 410
Cutaneous side effects of mesotherapy
COMPLICATIONS CUTANEEES DE LA MESOTHERAPIE
Venencie P.Y., Cottin P., Rain B., Lepelley E., Larrieu H.
Mesotherapy with naproxin sodium in musculoskeletal diseases
La mesoterapia con naprossene sodico nella patologia muscoloscheletrica.
Guazzetti R., Iotti E., Marinoni E.

Rivista europea per le scienze mediche e farmacologiche = European review for medical and pharmacological sciences = Revue européenne pour les sciences médicales et pharmacologiques (1988) 10:6 (539-542). Date of Publication: Dec 1988
RECORD 412
Mesotherapy with naproxen sodium in patients with musculo-skeletal affections
Guazzetti R., Iotti E., Marinoni E.

RECORD 413
Mycobacterium fortuitum: Aggravated risk of skin infection after mesotherapy
MESOTHERAPIE ET MYCOBACTERIOSE CUTANEE A MYCOBACTERIUM FORTUITUM: UNE 'MEDECINE DOUCE' A RISQUE
Friedel J., Piemont Y., Truchetet F., Cattan E.
Complications of mesotherapy: Mycobacterium chelonei infection

COMPLICATIONS DE LA MESOTHERAPIE: GOMMES A MYCOBACTERIUM CHELONEI

Bilet S., Belaich S., Cordoliani F., Faucher F., Crickx B.

Treatment of mechanical tendinopathies by mesotherapy with orgotein in combination with laser therapy

Solinas G., Solinas A.L., Perra P., Solinas F.L.


The authors submitted twenty patients suffering from tendon mechanical disease to an associated treatment inclusive of mesotherapy with orgotein and infrared laser therapy. The achieved results show a higher effectiveness of this association when compared to traditional therapies, since the recovery period is shorter and the response to the treatment is almost always positive.
RECORD 417
Intolerance reaction after mesotherapy
Réaction d'intolérance après mésothérapie.
Didier A., Carre P., Rostin M., Leophonte P.
RECORD 418
Magnesium pidolate and mesotherapy
MAG 2 EN MESOTHERAPIE
Walter A.
RECORD 419
The use of orgotein mesotherapy in De Quervain's disease
L'USO DELLA MESOTERAPIA CON ORGOTEINA NEL MORBO DI DE QUERVAIN
Spagnolini D., Della Torre F., Bozzolini G.
The authors report the results obtained by using mesotherapy with synthetic Calcitonin in the treatment of post-traumatic reflex algoneurodistrophy. Positive results were noticed in oedema and pain symptoms; they intend to use cutaneous thermography to check the validity of this treatment.
Remission of painful oro-dental symptoms using treatment with mesotherapy
Rémission des symptômes douloureux bucco-dentaires par traitement de mésothérapie.
Vaillant P.
Le Chirurgien-dentiste de France (1986) 56:343 (41-42). Date of Publication: 19 Jun 1986
Indications of mesotherapy in 1986

PRINCIPALES INDICATIONS DE LA MESOTHERAPIE EN 1986

Pistor M.

Gazette Medicale (1986) 93:8 (43-47). Date of Publication: 1986
Mesotherapy: Source of new risks
LA MESOTHERAPIE, SOURCE DE RISQUES NOUVEAU
Meyruey M., Nouaille-Degorce P., Merlier C.
RECORD 424
Effects of coumarin plus rutoside as mesotherapy in venous insufficiency of the lower extremities
ETUDE DE L'ACTIVITE DE LA COUMARINE-RUTINE ADMINISTREE SOUS FORME DE PLURI-INJECTIONS AU SEIN DU TISSU CONJONCTIF INTRADERMIQUE (MESOTHERAPIE) DES MEMBRES INTERIEURS CHEZ DES SUJETS ADULTES ATTEINTS DE MANIFESTATIONS CLINIQUES D'INSUFFISANCE VEINEUSE DES MEMBRES INFERIEURS
Ravily G., Gil P., Kaplan J.A.
RECORD 425
Microcirculation, mesotherapy and thermography
MICROCIRCULATION, MESOTHERAPIE ET THERMOGRAPHIE
Thierree R.A., Mrejen D.
Stimulated by the interesting results obtained by other workers the authors treated patients with Duplay's disease using mesotherapy with the bisodium salt of EDTA, a substance with a chelating action on the Ca(++) cation. The results were extremely positive subjectively, clinically and radiologically; the authors therefore decided to publish their results and intend to continue using this therapeutic technique.
Side effects of mesotherapy: 2 cases
COMPLICATIONS CUTANEEES DE LA MESOTHERAPIE (2 OBSERVATIONS)
Guillaume J.-C., Jouffroy L., Touraine R.
The therapeutic efficacy of mesotherapy has been evaluated in acute osphyalgia using, as evaluation method, a Cyborg EMP and Q 700 biofeedback device. The casuistry included 20 subjects affected with acute osphyalgia who, at the beginning and at the end of the mesotherapeutic treatment, were submitted to EMG biofeedback sessions. For a correct quantification of the results the Cyborg Q 700 analyzer was used permitting the integral evaluation every 10 seconds of the data given by the EMG feedback. This method permits therefore a correct, precise and immediate evaluation of mesotherapy efficacy which was, up to now, based on the data, sometimes contradictory, of classic semeiology.
Critical review of 10 years' experience with mesotherapy in physical medicine

REVISIONE CRITICA DI 10 ANNI DI ESPERIENZA DI MESOTERAPIA IN MEDICINA FISICA

Colombo I., Cigolini M., Rega V.

On the subject of mesotherapy
Mise au point sur la mésothérapie.
de Beir J., Bazon H.
Combined use of mesotherapy and laser therapy in recent posttraumatic affections of the locomotor system

L'ASSOCIAZIONE TERAPEUTICA MESOTERAPIA-LASERTERAPIA NELLA PATOLOGIA POST-TRAUMATICA RECENTE DELL'APPARATO LOCOMOTORE

Cigolini M., Colombo I., Rega V.

RECORD 432
Migraine and its mesotherapeutic management
LES MIGRAINES - ETUDE ET TRAITEMENT MESOTHERAPIQUE
Pichard J.C.
Archives Medicales de Normandie (1983) 14:4 (69-74). Date of Publication: 1983
Transdermal microinjections against cellulitis

DES MICRO-INJECTIONS TRANSDERMIQUES POUR COMBATTRE LA CELLULITE

De Cottreau H.

Cahiers de Kinesitherapie (1983) No. 100 (31-35). Date of Publication: 1983
Interesting combination of therapeutic techniques: Mesotherapy and laser therapy

UN INTERESSANTE SINERGISMO TERAPEUTICO: MESOTERAPIA E LASERTERAPIA

Colombo I., Cigolini M.

*Riabilitazione (1982) 15:3 (149-153).* Date of Publication: 1982

Two interesting physiotherapic techniques are proposed: mesotherapy and lasertherapy. After setting out the theoretical principles that have led to the combination, the authors clarify the practical procedure of therapy. A small but selected set of cases confirms the efficacy of this association, especially in post-traumatic acute deteriorations of the locomotor apparatus.
The clinical evolution of two groups of patients subjected to three fortnightly sessions of mesotherapy combined with an intense kinesitherapy program versus a control group arouses new interest in this therapeutic technique and the utility of a more thorough study of the criteria of application.
Mesotherapy in manual medicine

LA MESOTERAPIA IN MEDICINA MANUALE

Colombo I., Cigolini M.

MESOTHERAPY IN THE TREATMENT OF LYMPHEDEMA: HISTOLOGIC AND ULTRASTRUCTURAL OBSERVATIONS

La mesoterapia nel trattamento dei linfedemi: osservazioni istologiche ed ultrastrutturali.

Donini I., De Anna D., Carella G., Ricci D., Mazzoni M., Benea M., Pozza E.

Chirurgia e patologia sperimentale (1982) 30:1 (25-34). Date of Publication: Feb 1982
RECORD 438
Mesotherapy in autonomic nervous dystonic conditions
LE TRAITEMENT DES DYSTONIES NEURO-VEGETATIVES EN MESOTHERAPIE
Pichard J.-C.

RECORD 439
Results of 6 years of treatment of painful periodontal episodes by mesotherapy
Résultats de six années de traitements des épisodes douloureux desmodontaux par la mésothérapie.
Médioni G.
Mesotherapy is a treatment technique characterised by the practice of multiple microinjections in the intradermic connective tissue. The medicaments utilised are the same as in allopathy but injected at very low doses. With regard to symptoms, therapy and etiology it applies to the cutaneous projection zone of the organ to be treated or to the corresponding metamere.
RECORD 442
Mesotherapy in phlebology
La mésothérapie en phlébologie
Gallo R.
A new therapy against pain: Mesotherapy

UNE METHODE THERAPEUTIQUE ANTALGIQUE: LA MESOTHERAPIE

Dalloz-Bourguignon A.

Journal Belge de Medecine Physique et de Rehabilitation (1979) 2:3 (230-234). Date of Publication: 1979

A New therapy against pain, mesotherapy, consists of micro-injections of small doses of mixtures, with diluted procaine as constituent. These agents are injected into the dermal region corresponding to the underlying pathology. Intradermal needles of 4 mm are adapted to a syringe, a multidose injection apparatus or an electronic injector. Its analgesic action has been demonstrated by a telethermographic study on headache. The clinical improvement experienced by the patient is depicted by a transition of hyperthermy into hypothermy. Thermovision provides an objective control of the measurable qualitative pain syndrome. Thus mesotherapy allows in daily practice to act upon pain in the field of articular, vascular and infectious pathology.
Oro-dental mesotherapy

Propos sur la mésothérapie bucco-dentaire.

Medioni G.

What is mesotherapy?
Qu'est-ce que la mésothérapie?
Pistor M.

Erratum to Severe acute caffeine poisoning due to intradermal injections: Mesotherapy hazard (Vojnosanit Pregl (2012), 69, 8, (707-713))
Vojnosanitetski Pregled (2012) 69:10 (929). Date of Publication: October 2012

Mesotherapy and dermatology of the dog
MESOTHERAPIE ET DERMATOLOGIE CHEZ LE CHIEN
Kubicz S.
Revue de Medecine Veterinaire (1973) 36:10 (1275-1298). Date of Publication: 1973