Psycho-affective Implications in Dermatoaesthetics

**Teona Asavei, Elena Porumb-Andrese, Dan Vâță,
Mihaela Paula Toader, Adriana Ionela Pătrașcu, Alina Ioana Halip,
Ioana Adriana Popescu, Laura Gheucă Solovăstru**

Teona Asavei - M. D., Dermatology Clinic County Emergency Hospital "St. Spiridon" Iasi

Elena porumb-Andrese - M.D. PhD, Assistant Professor, Department of Dermatology "Grigore T. Popa" University of Medicine and Pharmacy Iasi, Romania

Dan Vâță - M.D. PhD, Lecturer, Department of Dermatology "Grigore T. Popa" University of Medicine and Pharmacy Iasi, Romania

Mihaela Paula Toader - M.D. PhD, Lecturer, Department of Dermatology "Grigore T. Popa" University of Dental Medicine Iasi, Romania

Adriana Ionela Pătrașcu, - M. D., Dermatology Clinic County Emergency Hospital "St. Spiridon" Iași

Alina Ioana Halip - M.D. PhD Student, Assistant Professor, Department of Dermatology "Grigore T. Popa" University of Medicine and Pharmacy Iasi, Romania

Ioana Adriana Popescu - M.D. PhD Student, Department of Dermatology "Grigore T. Popa" University of Medicine and Pharmacy Iasi, Romania

Laura Gheucă Solovăstru - M.D. PhD, Associated Professor, Department of Dermatology "Grigore T. Popa" University of Medicine and Pharmacy Iasi, Romania

ABSTRACT

Aesthetic Medicine comprises all medical procedures that have as objective improving the physical appearance with a major impact on the human psyche. This paper highlight the risks associated with medical procedures specifically on psycho-affective implications and the importance of interdisciplinary collaboration that can improve the quality of care in this new medical field.

KEYWORDS:

Mesotherapy, microneedling, botulinum toxin, peels, fillers, lasers

Skin diseases have a major psycho-emotional impact affecting both patient's integrity and his/her family and interpersonal relationships, the affective component playing an essential role in the management of patients with skin disorders.

Unlike internal diseases, skin disorders are characterized by the fact that the patient can see the disease and monitor its course, generating an emotional cascade dependent on the therapeutic response. Thus, the patient faces stigma, experiences social and physical avoidance being perceived by other people as having a contagious condition, even though the disease is autoimmune or just skin manifestations of some internal diseases. The feeling of shame, social isolation and depressive disorder associated with certain diseases increase the severity of the disease and pose a challenge for clinicians.

Another important aspect regarding the interaction between mind and skin, psychodermatology, is skin aging which leads to the loss of self-esteem, regret and internalization, as well as the obsessive desire to stop the aging process, which can sometimes result in an addiction difficult to control.

Skin aging is an inevitable physiological process based on complex mechanisms that include the gradual degradation of skin functions as well as significant histopathological changes. In fact, the aging process is the cumulative result of the permanent interaction between intrinsic and the extrinsic factors, characterized by an increased incidence of skin diseases and of developing cancer, as well as by aesthetic problems and the multiple methods of temporarily stopping the ageing process.

The management of skin aging involves the treatment of the stages of aging and

photoaging, process requiring individualized approach, adapted to patient's age and in accordance with his/her wishes, as long as they comply with the dermatoaesthetic norms. At present, there are multiple methods both noninvasive and invasive to fight against skin aging, with significant implications in skin diseases.

Mesotherapy is one of the procedures used to rejuvenate and tone the skin, which involves the transdermal injection of a cocktail of multivitamins, enzymes, hormones, hyaluronic acid and natural plant extracts to stimulate fibroblasts and cellular interactions aimed to increase collagen and elastin production (1). It is also indicated in such skin diseases as psoriasis, alopecia and excess fat removal. The procedure is safe, and there are few side effects, such as erythema, edema or ecchymosis at the injection site (2). It is a relatively easy technique that requires accessible equipment and short-term training, being a minimally invasive way to achieve rapid results (3).

Another relatively new option is microneedling with wide applicability in dermatology. Besides its facial rejuvenation benefits, microneedling results in significant improvement of post-acne scar appearance by increasing type I, III, VII collagen levels and of general skin appearance, increased hair density in patients with androgenic alopecia and alopecia areata, as well as improved stretch mark appearance by increasing elastin fiber density. [2] The procedure involves creating micro-perforations at varying depths with the help of single-use needles, having a powerful stimulating effect of collagen and elastin fibers, both by the mechanical action and by introducing the active substances directly into the deep layers of the skin through the created channels. Contraindications to microneedling are

limited and include inflammatory acne, active herpes labialis or other local infections, predisposition to develop keloids, and immunosuppression (4).

Botulinum toxin injection is one of the most popular techniques in dermatology. Botulinum toxin is a neurotoxin produced by *Clostridium botulinum*, types A and B being the most used medically. Toxin A is used for many conditions, especially in dermatology and for cosmetic purposes. Botulinum toxin is used to improve wrinkles on the forehead, glabella, outer corners of the eyes and nasolabial area. Other commonly encountered locations are wrinkles around the mouth and senescent neck changes. It can also be used to elevate the eyebrows and to treat conditions such as hyperhidrosis, lichen simplex, dyshidrotic eczema and acne vulgaris. The mechanism by which botulinum toxin acts is paralysis of the facial muscles by inhibiting the release of acetylcholine, effect that lasts 3-6 months with individual variations. The possible side effects of Botulinum toxin injection has minor side effects, including erythema, edema and pain at the injection site. Other reported side effects are nausea, flu-like symptoms and ptosis in the treatment of the glabellar region, ectropion following lower eyelid injection. All these potential adverse effects are temporary and gradually resolve as the toxin wears off (5, 6).

Currently, facial rejuvenation with fillers is the most popular method, a technique that provides cosmetic results previously obtained only surgically, with lower costs and shorter recovery time. Indications for fillers include cheek and chin volumization, correction of facial asymmetry and hand rejuvenation. Fillers can be classified as biodegradable and not biodegradable. Collagen and hyaluronic acid belong to the category of biodegradable fillers, with a short-term effect, being

absorbed quite quickly by the body. Not biodegradable fillers cause a foreign body reaction with stimulation of collagen deposition around non-absorbable microspheres, and given their permanent nature their complications may be more long-lasting and difficult to treat. Possible complications are ecchymosis, edema, hyperpigmentation, abscesses (rare complication, which may occur after the intervention (weeks or months) and may persist for weeks and recur periodically), reactivation of herpes infection, occurrence of nodular masses, foreign body granuloma, paresthesias, and tissue necrosis. The risks differ depending on the chosen filler product, its properties and injection requirements and can be prevented by a thorough knowledge of facial anatomy and the correct choice of the filler product according to the region to be treated (7, 8).

Chemical peels are a safe, rapid and low-cost method for the treatment of various skin conditions and facial rejuvenation. They are classified as superficial, medium and deep, the depth of peeling depending on the type and concentration of the acid used, patient's skin type and sensitivity. Superficial peels are based on salicylic acid, AHA, 10%-20% trichloroacetic acid and retinoic acid and are effective in dyschromia, acne, postinflammatory hyperpigmentation (2). Medium peels are used in case of solar lentigines, multiple keratoses, superficial scars and pigmentation disorders, while deep peels are effective in severe photoaging, deep wrinkles and scars, and occasionally in precancerous skin lesions (9).

Laser-based procedures fuel new innovations and clinical applications in the field of both skin diseases and aesthetics. In recent years, the role of these technologies has expanded significantly, currently being a therapeutic

option in the treatment of vascular and pigmented lesions, scars, and tattoo and unwanted hair removal. Vascular lesions are one of the most common diseases treated with lasers due to the ability of systems to specifically target intravascular oxyhemoglobin. Oxyhemoglobin absorbs the laser light which is then converted to heat and transferred to the vessel wall, causing coagulation and vessel closure. Hypertrophic scars and keloids are still a challenge due to the therapeutic difficulty and high recurrence rate following conventional treatments such as surgical removal, dermabrasion, radiation and intralesional therapy. Studies report improvements in hypertrophic scar appearance in terms of texture, erythema and pain following 1 or 2 sessions of pulsed dye laser (PDL) treatment. Adverse effects are minimal and may include purpura and depigmentation which remit gradually. To obtain a maximum effect, complementary therapies such as intralesional corticosteroids or 5-fluorouracil in case of resistant keloids can be added to these techniques. The numerous lasers types are subject to continuous development providing significant results in a wide range of skin conditions (10, 11).

The association between the psycho-affective component and dermatology denotes the importance of the multidisciplinary approach and individualized patient care, achieving the best possible wellbeing depending on both

these clinical entities. The numerous noninvasive and invasive techniques represent a new approach in the treatment of skin diseases and also in aesthetic medicine.

Acceptance of aging can be especially difficult in people at risk (e.g. depression), which is why, before any procedure aimed to improve physical appearance, patient's mental must be assessed.

It is not uncommon for the doctor to be confronted with the request for exaggerated cosmetic procedure (e.g. enhancement of lip volume to such extent that it can alter patient's physiognomy), so it is important to have a complex dialogue with the patient in order to set the limits in advance and thus avoid the possible disappointments.

Cosmetic surgery addiction is another aspect to be followed in the doctor-patient relationship. When talking about addiction, psychiatric consultation can help the patient more than the requested cosmetic procedure by identifying the causes that led to that situation.

Because patients can often seek solutions to their problems from other specialists, interdisciplinary collaboration can improve the quality of care and sometimes may even direct patient approach to his/her true problem.

ACKNOWLEDGEMENTS AND DISCLOSURES

The authors declare that they have no potential conflicts of interest to disclose

REFERENCES

1. El-Domyati M., El-Ammawi T., Moawad O., El-Fakahany H., Medhat W., Mahoney M. et al. Efficacy of mesotherapy in facial rejuvenation: a histological and immunohistochemical evaluation. *International J of Dermatol.* 2012; 51(8): 913-919.
2. Lee J., Daniels M., Roth M. Mesotherapy, Microneedling, and Chemical Peels. *Clinics in Plastic Surgery.* 2016; 43(3): 583-595.
3. Sivagnanam G. Mesotherapy - The french connection. *J of Pharmacol and Pharmacother.* 2010; 1(1): 4-8.

-
4. Alster T., Graham P. Microneedling. Dermatologic Surgery. 2018; 44(3): 397-404.
 5. Satriyasa B. Botulinum toxin (Botox) A for reducing the appearance of facial wrinkles: a literature review of clinical use and pharmacological aspect. Clin Cosmet Investig Dermatol. 2019; 12: 223-228.
 6. Small R. Botulinum toxin injection for facial wrinkles. Am Fam Physician. 2014; 90(3): 168-175.
 7. Pavicic T., Funt D. Dermal fillers in aesthetics: an overview of adverse events and treatment approaches. Clin Cosmet Investig Dermatol. 2013; 295.
 8. Lafaille P., Benedetto A. Fillers: Contraindications, side effects and precautions. J Cutan Aesthet Surg. 2010; 3(1): 16.
 9. Devgan L., Singh P., Durairaj K. Minimally Invasive Facial Cosmetic Procedures. Otolaryngol Clin North Am. 2019; 52(3): 443-459.
 10. Alster T., Husain Z. The role of lasers and intense pulsed light technology in dermatology. Clin Cosmet Investig Dermatol. 2016; 29.
 11. Sieber D., Kenkel J. Noninvasive Methods for Lower Facial Rejuvenation. Clin Plast Surg. 2018; 45(4): 571-584.

Correspondence:

Elena Porumb-Andrese,

M.D. PhD, Assistant Professor, Department of Dermatology “Grigore T. Popa” University of Medicine and Pharmacy Iasi, Romania, andrese.elena@yahoo.com

Submission: 28 aug 2019

Acceptance: 04 nov 2019