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Case report

Chemical and biostimulant peel with biphasic technology to treat melasma, followed by combined treatments for facial rejuvenation and lifting effect

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Abstract. Melasma is a pigmentation disorder of the skin mostly affecting women, especially those with darker skin. It is commonly seen on the face and appears as dark spots and patches with irregular borders. Melasma happens because of an overproduction of the cells that cause skin to have its color. It is harmless, but not easy to treat and present satisfying results. The patient in question was treated for two years every 15 days with a chemical peeling with a biphasic technology. The active ingredients' dermo-functionality contributed to a profound stimulation of skin replication and biosynthetic processes, essential to counterbalance the effects of skin pigmentation, aging and oxidative damage. During the peeling sessions, treatments with reabsorbable traction threads, with calcium hydroxyapatite (CaHA) filler, with hyaluronic acid filler and with botulinum toxin were performed to reduce skin laxity and increase collagen for skin rejuvenation.

Key words: melasma, chemical peeling, biostimulation

Background

Melasma[1] is a common skin pigmentation disorder[2] usually characterized by brown or blue-gray patches or freckle-like spots. They can appear as flat patches or freckle-like spots. Commonly affected areas include face (cheeks, upper lip and forehead), as well as the forearms. Melasma typically darkens and lightens over time, often worsening in the summer and improving in the winter.

Melasma is a typically chronic disorder. This means that it is long-lasting and hard to treat[3].

Depending on the person, melasma may go away on its own, it may be permanent, or it may respond to treatment within a few months. Unfortunately, there is no definitive treatment that will automatically make melasma disappear. However, there are procedures that can help, such as topical treatments[4], mesotherapy[5], light-based procedures like intense pulsed light, non-ablative fractionated lasers and low fluence Q-switched lasers[6], or chemical peeling[7], as the skin that regenerates should be smoother and more evenly colored.

Objective

BioReTherapy is a procedure that aims to improve skin quality, act on melasma in combination with an at-home depigmenting therapy. Other treatments include injectables to reduce skin laxity and increase collagen for skin rejuvenation[8].

Mechanism of action

BioReTherapy[9] is a non-injective skin biostimulant, and its main characteristic is that it is a biphasic peeling with a biostimulating action. It consists of a lipophilic phase and a hydrophilic phase which

synergize, allowing the hydrophilic phase to consist of TCA 35% and low concentration salicylic acid and various bioactive components. There are also essential and non-essential amino acids, including GABA.

The hydrophilic phase essentially has an exfoliating action given by the TCA and a keratolytic and bacteriostatic action thanks to the low concentration of salicylic acid and a biostimulating action given by the essential and non-essential amino acids, an ability to stimulate the skin-stress response system by POMC. Furthermore, the presence of GABA among the amino acids gives this treatment a muscle-relaxing action, which is why it can be called a biostimulant peeling.

The lipophilic phase consisting of gamma-aminobutyric acid, squalene and isopropyl myristate, has a stabilizing action on the device, preventing it from oxidizing, it also has a sealing action by restoring the hydrolipidic film after each action, giving stability to the device.

Case report

The patient (42) arrived at the clinic with a diagnosis of melasma confirmed by a hospital dermatologist.

In the past, the patient tried to treat melasma with cosmetic creams purchased at the pharmacy, but she never underwent any medical or physical therapy.

Once the diagnosis was confirmed with an objective examination and Wood's light, home therapy with Klingmann preparation and photo sunscreen total screen 50+ were prescribed. Furthermore, outpatient therapy with BioReTherapy was performed fortnightly for two years, without the use of microneedling[10]. The patient never stopped the treatment series and always used photoprotection, avoiding direct exposure to the sun at the seaside during the summer period.

Materials and method

BioReTherapy protocol performed every 15 days for about 40 sessions.

1. Shake the ampoule for a few seconds until the color turns green for a temporary emulsion. After a few minutes the product returns to its initial biphasic state. It is necessary to shake the ampoule before every use.
2. Using a syringe with an 18G needle, pull out the quantity of product for the treatment (2ml). Remove the needle.
3. Apply the product with nitrile gloves on the focused area and massage until it is completely absorbed.
4. After the exposure time, carefully clean the zone with a sterile gauze and water.
5. Apply the BioReLift® cream immediately after the in-clinic treatment and as home care BioReHydra® serum in the morning and BioReLift® cream in the evening.

As an at-home therapy, Klingmann preparation and photo sunscreen total screen 50+ were prescribed.

The patient underwent a session of reabsorbable traction threads in polylactic acid and polycaprolactone[11], anchoring and biostimulating threads to have a dual action, the threads were positioned with the lateral shipping technique, therefore with two small holes with entry into the preauricular area with the exit corresponding to the nasal crease and the puppet, therefore with the aim of supporting the nasogenian adipose compartment and the prejowl adipose compartment, supporting the middle third and the lower third of the face. These threads have an immediate lifting capacity given by the spines that constitute them with an anchoring function and follow a collagen biostimulating action given by the thread itself. The threads have a balanced relationship between elasticity and plasticity. All this to better support the oval of the face.

The patient had two sessions with calcium hydroxyapatite (CaHA) filler[12] diluted at 4, therefore as a biorevolumizer and biostimulant of collagen. It was injected into the middle third and lower third of the face to restore volume. One session was done before the threads and the second one after a month. The goal was to determine a lifting action, fill and restore the lost volumes, without having a hygroscopic action as hyaluronic acid does.

Another session was done for the lips, a low molecular weight cross-linked hyaluronic acid filler[13]

was used, with OBT technology to reharmonize the leprosy without creating a stiffening of the same.

Finally, botulinum toxin[14] was used to reduce the muscular hypertonicity of the main muscles of the upper 3rd of the face, depressors (procerus, corrugator of the eyebrows and orbicularis) and elevators (frontalis muscle) to obtain a balance of the eyebrow and the gaze, reducing expression lines.

The therapeutic plan lasted two years, filler and hyaluronic acid sessions were done every 30 days, the Botox in two sessions, the BioReTheraphy every 15 days and afterwards once a month for maintenance.

Conclusion

BioReTherapy is excellent in combination with injectables and thanks to the stimulation of the skin-stress response system it improves the tone of the skin's trophism and skin quality while reducing pigmentation.

The combination of several treatments was made necessary with the aim of rejuvenating the face and improving it not only quantitatively but also and above all qualitatively: by acting with the traction and biostimulation threads to counteract skin laxity and improve the triangularity of the face; with Ca-Ha to restore volumes thanks to the stimulation of collagenogenesis; with botulinum toxin to reduce muscle hypertonicity, attenuate mimic wrinkles and improve the line of sight; and with filler based on hyaluronic acid to reharmonize and restore firmness of the lips.

Conflicts of Interests: The authors declare no conflict of interest.

Informed Consent: The author would like to thank the patient for giving permission to publish this information.

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