

Facial Rejuvenation of A 73-Year-Old Arabian Woman (Case Presentation)

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CASE PRESENTATION

A 73-year-old Arabian woman (housewife) presented to our private office desiring facial aesthetic rejuvenation. In her upper face, the patient wished to soften the appearance of rhytides in her glabella, forehead, periocular region and to elevate her brows. In her lower face, the patient desired restoration of a more youthful contour, with correction of her nasolabial folds and elimination of her marionette lines. Patient is diabetic, hypertensive, ischemic heart with compensated hepatitis C virus. She has received no aesthetic treatment before. She has no aesthetic treatment experience except the word botox and filler. She is refused any surgical interference.

On examination (Fig. 1), the patient demonstrated moderate glabellar rhytides and mild brow ptosis. She had rhytides of the lateral periocular region in repose. On animation (smiling) these became more prominent. She demonstrated mild volume loss in the lower face, with prominent nasolabial folds and marionette lines and descent of the prejowl sulcus.

For optimal results, the patient's pretreatment assessment should include careful evaluation of the musculature at rest and when engaged, as well as the changes in facial landmarks as the muscles are activated.

Consultation of cardiologist, hepatologist and general medicine was done.

PATIENT'S TREATMENT PLAN

Details discussion with other specialty; General Medicine, Cardiologist and Hepatologist before the management was done.

Cardiologist opinion stated that "your patient has stable coronary artery disease, no recent attacks of chest pain, no significant ECG changes, normal EF and especially no arrhythmias".

Followed by an assessment; the patient's treatment goals, facial anatomy, and aging changes. Combination therapy using multiple treatment modalities was determined to be the best treatment approach. Botulinum Toxin type A (BoNT-A) was selected as the best approach to treat her upper-face rhytides and to shape and lift her brows. To restore lost volume in her lower face, dermal filler Hyaluronic Acid Filler (HA) was selected, with BoNT-A as an adjunctive agent to help lift the corners of her mouth.

The patient was assessed as having medium glabellar muscle mass. BoNT-A injections were placed into the patient's forehead, glabella, and crow's feet region.

In preparation for treatment, the vial of BoNT-A (Botox) was diluted with 2.5mL of unpreserved saline. The patient received 5 injections of 5IU each in her glabella (2 injections into each corrugator and a central injection into the procerus). Her forehead was treated with 8 symmetrical injection points of 4IU each in the region of the frontalis. She received 3 injections of 2IU each for crow's feet region. The patient demonstrated moderate volume loss in the lower-face region, with prominent nasolabial folds and marionette lines and descent of the prejowl sulcus. An (HA) dermal filler was selected to fill her nasolabial folds and oral commissures and to restore volume in general. BoNT-A was selected to enhance the results of the HA filler by providing some lift to the corners of her mouth.

The patient received 2IU of BoNT-A to each depressor anguli oris to help relax and lift the corners of her mouth. Her nasolabial folds were treated with 2 syringe (1cc) of HA filler. Her oral commissures, marionette lines, and prejowl sulcus were also treated with 1 syringe (1cc) of HA filler. This patient was prepared for treatment through the use of a topical ice adjunctively immediately before injection and for few minute after injection.

The dose ranges are from published scientific literature and are suggestions based on consensus from experience with product.

RESULTS

Our patient is very happy and satisfied with the result obtained irrespective to some ecchymosis appears after the injections which resolve completely after 10 days. No other complication detected during follow-up (Fig. 1).



Fig. (1): Our patient pre and one month after injection.

DISCUSSION

Facial aging changes occur as the result of a number of factors, including external environmental impacts, muscle action, and genetics. Most patients present for the treatment of visible lines, wrinkles, and folds, and the etiology of the rhytides must be established for appropriate treatment. Dynamic rhytides are caused by muscle action and are seen during facial animation (e.g., smiling, talking, and frowning). Static rhytides are visible at rest, although they may deepen during animation. Over time, untreated dynamic rhytides may form static

rhytides. However, the formation of static rhytides is influenced by additional factors, such as photo-damage and loss of skin elasticity [1].

This patient came to improve her appearance to become more youthful. I represent this patient because this is a new era in our Arabian countries. Because she has many medical problems and her age.

The patient's treatment plan was crafted based in part on the physiology of the aging changes. The clinician must ascertain the physiologic basis

of the observed changes to create an appropriate treatment plan. For example, dynamic wrinkles associated with muscle action are best approached with BoNT-A. Conversely; folds caused by the loss of subcutaneous fat will not respond effectively to BoNT-A and must be corrected with soft-tissue augmentation or possibly surgical intervention [2].

Also it is important to determine patient preferences before determining dosing and injection points. Our patient has no knowledge about the methods of facial rejuvenation except the word botox and term filler and said to me "you can do everything except surgery".

A number of studies as well as clinical experience have supported the efficacy of combining treatment modalities for optimal results. Dermal fillers, BoNT-A, light/energy therapy, and chemical resurfacing are common modalities that have been combined successfully in aesthetic treatment plans [2-4].

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The patient demonstrated moderate volume loss in the lower-face region, with prominent nasolabial folds and marionette lines and descent of the pre-jowl sulcus. An (HA) dermal filler was selected to fill her nasolabial folds and oral commissures and to restore volume in general. BoNT-A was selected to enhance the results of the HA filler by providing some lift to the corners of her mouth.

BoNT-A has been used for 20 years for numerous medical conditions worldwide, and clinicians generally have a good understanding of the agent's efficacy and safety profile. As a brief review, clinical trials assessing the efficacy of aesthetic use of BoNT-A showed a response rate of approximately 80% with response starting to fade at about 90 days [5-7].

Clinicians need a complete understanding of facial anatomy in order to optimize results with BoNT-A therapy and avoid complications. The most commonly treated muscles in the upper face are the muscles of the glabellar complex: The corrugator supercilii, procerus, and depressor supercilii [8,9].

Contraction of the corrugator supercilii muscle draws the eyebrows centrally and inferiorly, contributing to the formation of vertical and oblique lines ("frown lines") in the glabellar area. It is

located deep to the frontalis muscle and becomes more superficial laterally. Patients may present with either of 2 distinct corrugator muscle patterns: A short, narrow muscle pattern with pyramidal distribution; or a straight, narrow muscle extending to the mid-brow area. The muscle patterns are easily distinguished upon muscular contraction [8,9].

The procerus depresses the medial portion of the eyebrow, contributing to the formation of transverse glabellar lines. The depressor supercilii muscle also depresses the medial portion of the eyebrow and thus contributes to the formation of transverse glabellar lines. Specific identification and treatment of the depressor supercilii in conjunction with the other muscles of the glabellar complex can yield optimal improvement of glabellar lines [8,9].

Beyond the glabellar complex, 2 additional upper-face muscles are commonly approached for treatment with BoNT-A with very satisfying results: The frontalis and the orbicularis oculi.

The frontalis is the one true elevator muscle in the upper face, serving to raise the eyebrows. Repeated contraction of the muscle causes horizontal forehead lines. It interweaves with fibers of the orbicularis oculi and the muscles of the glabellar complex. The frontalis is often depicted in anatomical illustrations as 2 distinct bands with central separation; however, the more common clinical presentation is 1 broad muscular band with no separation [8,9].

The orbicularis oculi muscle controls closure of the eye, with the orbital portion depressing the eyebrow and the palpebral portion affecting the motion of the eyebrow and eyelid when blinking, squinting, and smiling. The actions of each portion of the orbicularis oculi contribute in different ways to the formation of lines in the periocular region. The muscle is very superficial and encircles the eye socket, lying immediately below the dermis in many portions of the periorbital region [8,9].

Macdonald and colleagues [10] identified gender differences in upper-face musculature following their dissection of 50 cadaver hemibrows (24 male, 26 female). These gender-based anatomical differences provide a clear indication that clinicians should treat according to the patient's individual anatomy in order to achieve good results.

A solid understanding of facial anatomy, coupled with proper treatment dosing, helps to prevent

treatment complications resulting from the migration of toxin into unintended areas. Once they have occurred, these complications will typically fade after several weeks [8,9,11].

When treating the aging lower face, the clinician must understand the physiologic causes of the demonstrated changes and select a treatment appropriate for the root cause. As is generally well understood in the aesthetic community, the lower face typically demonstrates lines and folds due to degradation of the skin's collagen structure and loss of subcutaneous fat. The primary goal is thus to restore more youthful facial contours by supporting the skin and replacing lost volume.

Dermal-filler injections are a well-established first-line approach to treating volume loss, with BoNT-A resurfacing, and other modalities serving as complementary adjunctive therapies [2].

The use of soft-tissue fillers in cosmetic enhancement dates back over 100 years, with the first attempt an autologous fat transfer procedure. The FDA approval of a bovine-derived collagen filler in 1981 was the culmination of research and experimentation in the intervening years [12]. Collagen was the most commonly used dermal filler until the 2003 approval of injectable (HA) fillers for aesthetic use [13]. HA fillers have since been adopted by many clinicians as the first-choice products for soft-tissue augmentation, and as a class they currently represent the third most popular cosmetic procedure overall [14]. However, the experienced practitioner understands that each patient and each wrinkle is unique, and that there is a place in the armamentarium for more than one type of dermal filler. Until the "ideal" filler is created, it is beneficial to have an understanding of and experience with multiple products and classes.

BoNT-A is a successful therapy for the treatment of facial aging signs and is being used with good results in the lower face. However, the use of BoNT-A in the lower face requires an experienced clinician and a conservative approach to both dosing and placement. Due to the structure and function of the lower facial musculature, high doses of BoNT-A can cause potentially serious complications [14-16].

Contraction of the depressor anguli oris contributes to downward-turned mouth corners and the formation of marionette lines and oral commissures. The muscle is superficial and originates from the mandible, where it is continuous with the platysma muscle and inserts into the angle of the

mouth, where it interfaces with the orbicularis oris and risorius [14].

The orbicularis oris controls closure and protrusion of the lips, and repeated contraction contributes to the formation of vertical lip lines. It is a sphincter muscle encircling the mouth, has a multilayered structure, and interdigitizes with the other lower facial muscles [14].

The mentalis muscle elevates the lower lip and controls its protrusion. Contraction of the muscle can cause a pronounced horizontal crease in the upper chin. Additionally, age-related subcutaneous fat loss accentuates the muscle's dermal attachment sites, causing the appearance of the "pebbly" or "cobblestone" chin. The mentalis is a diffuse muscle that originates at the incisive fossa of the mandible and inserts vertically below into the dermis of the chin.

The platysma draws down the lower jaw and mouth corners and moderates movement of the skin in the neck and upper thorax. It contributes to lower-face descent and the formation of vertical banding in the neck. The platysma is a sheet-like muscle that originates in the clavicle and fascia of the upper chest and inserts into the mandible and skin of chin and cheek, intertwining with the lower-face musculature to a significant extent [14].

An effective approach to treatment in the aging lower face is the combination of dermal fillers and BoNT-A [2,3,17].

The dose ranges are from published scientific literature and are suggestions based on consensus from experienced with product. Clinicians should consider their individual experience; patient anatomy, gender, and goals; and the pattern, mass, and activity of the muscles to be treated to select and refine doses for specific treatments.

This is a critical issue in the lower face because the unintended consequence of improper injection can be truly detrimental to the patient's quality of life.

The lower-face musculature is extremely sensitive to the consequences of overtreatment or neurotoxin migration because the muscles are highly integrated and involved in the actions of daily life (e.g., speaking, eating, and drinking). Some asymmetries can be corrected with selective injections of additional neurotoxin, but in general these complications must resolve on their own. As with the upper face, precise product placement is the best tactic to avoid these complications.

Conclusion:

I present this case to report that we are in a new era in our culture and to report that everybody ask about beauty irrespective to his or her age and health.

Combination of botulinum toxin type A and hyaluronic acid filler for rejuvenate the face resulted in high levels of patient satisfaction. And this patient appeared younger than they did before treatment.

No contraindication for use of botulinum toxin type A and hyaluronic acid filler for rejuvenate the face in very old patient or diabetic, hypertensive, ischemic heart or with hepatitis C virus infection but care must be taken.

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