

Hyaluronic acid fillers in facial contouring: The “Less is More” concept

Abstract

Background: Aesthetic dermatology is a rapidly evolving field of medicine that allows for minimally invasive procedures, little to no recovery time and cost-effective techniques. Hyaluronic Acid (HA) fillers are used for facial contouring, the treatment of facial volume loss & enhancing the natural light reflecting areas of the face.

Aims: HA fillers are safe and generally well tolerated yet using more of the product exposes the patient to an added risk of inflammation as well as higher cost. We aim to detail the “less is more” technique that limits the number of injections and maximises natural aesthetic results. The secondary aim of this study is to point out that younger patients consult for a different motive; namely the use of HA fillers for enhancing the natural light reflecting points of the face.

Materials & Methods: The “less is more” technique distinguishes between static and dynamic facial planes, allowing for natural expressions, positive patient image, an artistic analysis that encompasses the entire face including untreated facial units. This study was conducted over a period of 30 months on 162 patients divided into two age groups.

Results/Conclusions: The “less is more” technique for HA fillers in facial contouring optimizes natural results by selectively diminishing negative facial expressions and allowing for natural looking volume restoration. HA fillers are also effective as a durable tool for enhancing the natural light reflecting areas of the face in patients aged 20-50.

Keywords: hyaluronic acid, facial contouring, fillers, less is more, French touch, negative facial expressions, facial volume restoration, medical artistry, medical highlighting, medical strobing

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Introduction

Aesthetic medicine is a rapidly evolving field that comprises certain treatment techniques that were at times deemed excessive when the outcomes appeared artificial. These rejuvenation treatments, namely HA filler injections, have come a long way over the past few years with an increasing understanding of the product as well as experience in innovative methods. The “less is more” approach is the fruit of a global and extensive analysis of the subtleties of facial dynamics. The concept promotes using fewer injections in the interest of safety, cost-effectiveness and natural results with products that are extremely well tolerated.^{1,2} HA fillers also play a role in implementing positive first impressions as well as a feeling of improved physical appearance.³ This “French Touch” innovation aims to preserve facial volumes, while maintaining facial expressions. This concept is the result of careful physiological analysis.⁴ It allows for particularly natural looking results that restore and maintain an agreeable aesthetic curvature to the face, which highlights the role of aesthetic medicine during the ageing process as an artistic tool⁵ that buffers the signs of facial ageing, rather than being a means of repair.^{1,4} The aesthetic practitioner employs subtle techniques that are safe, fast and that provide an interesting alternative to surgery.⁶ The transformative work achieved by HA fillers in restoring facial volumes and the treatment of deep lines and wrinkles has become highly personalized and precise. The foundations for researching and developing modern aesthetic medicine are based on anatomical data, clinical data and an artistic approach.^{4,7} HA fillers are injected in various facial planes while distinguishing between the static and the more superficial dynamic facial zones in order to render a perfectly natural outcome with regards to facial expressions.^{1,3}

Patients often consult in search of an improved positive appearance rather than a desire to alter their existing face. They specifically seek a tool that helps delay the negative effects of time and gravity. This is precisely when HA fillers play an important role in restoring a very personal positive image.⁴ The aesthetic practitioner becomes the sculptor, inspired by makeup artistry in many instances⁵ that analyses the physiology of the face in depth before using HA fillers to intervene between the various zones of the face for both static positions and dynamic facial expressions. Injecting HA fillers on one facial zone may produce a positive effect on a separate zone.⁸ This effect can be observed when targeting the junction zones of the nose, namely, the central part of the profile zone, a practitioner can create the impression that the nose is longer or shorter, while the nose itself has not been treated.⁹⁻¹¹ Likewise, a treatment targeting the malar area, or the nasolabial junction will have an impact on the relative dimensions of the nose. This artistic analysis, thus, encompasses the entire face, and is essential in aiding the practitioner to achieve a natural outcome.

“Less is More” Concept

The less is more concept is a global approach including the medical highlighting technique and the treatment of the negative zone of the face and restoring facial volumes and contours and is presented previously by the author.^{1,12,13} Volume restoration with a facial filler should not be considered simply the installation of a product, but rather, the establishment of a harmonious relationship between the product and its surrounding tissue.¹ Treating negative static facial expressions allows for the removal of zones that catch light negatively thereby diminishing the shadow effect they create⁴ using a smaller quantity of HA filler with more visible aesthetic effects.

These shadow-enhancing negative facial expression zones are classified here as “negative vertical lines” that are vertical paramedian lines in which under-eye bags, nasolabial folds, laugh lines, marionette lines and the mandibular notch develop. The lines reveal small triangles of shadow and light in the areas to be treated.

Treatment of volumes and enhanced facial contouring can be achieved by treating specific zones of the face^{1,4} where the deep structural support is extremely close to the skin surface. These facial regions reflect light naturally and are therefore ideal for the “Less is More” method. They are comprised of the nasal region (sheen lines), the jawline, the labiomandibular folds (marionette lines), the most lateral and prominent part of the cheekbone (malar area), and the lateral part of the brow tail, where the orbital edge is more or less sharp. A fundamental principle behind optimizing volume restoration and contouring is to treat all levels of the facial envelope beginning with the establishment of deep structural support.¹ Filling and restoring the light-reflecting zones and convexity of these five areas establishes an effective “medical contouring”.^{1,4}

Concept of negative vertical band of the face

This concept is previously presented by the author as the 2 vertical paramedian lines which present shadows and most pronounced depressions of the face: at the level of the orbital rim, the upper part of the nasolabial fold, Marionette line and, the interruption of the mandibular line (Figure 1).



Figure 1 Face negative vertical band.

By selectively removing these shadows that constitute the static and dynamic negative expressions with a dermal filler, the face regains a more relaxed look.

Medical Strobing Concept

The authors inspired this concept from makeup techniques in to highlight the specific parts of the face.

These are the protruding zones, where the space between the skin and its underlying supports are fine and thus, injecting the few quantities of products allows a fast capture of the light.

The goal is to perform much more technical and challenging injections by reducing doses and optimizing the results, thanks to a finer artistic and rigorous analysis of each face.

Application of «negative vertical lines» and «Strobing» points in aesthetic medicine

These volume-restoring treatment zones, combined with filling of the deep lines and wrinkles that form the negative vertical bands, are at the heart of the “Less is More” concept. (Figure 2).

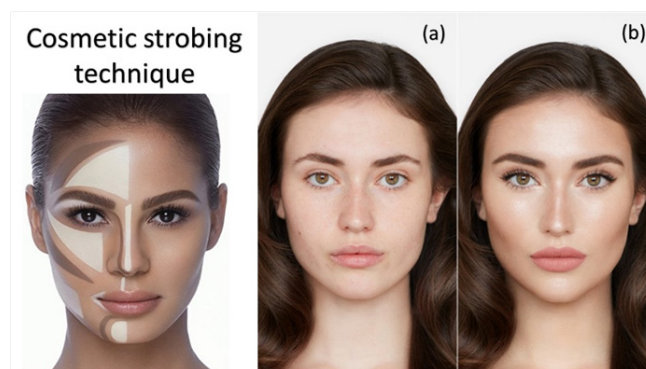


Figure 2 Cosmetic Strobing technique. (a) before; (b) after.

Objectives

This study aims primarily to demonstrate the efficacy of the “less is more” technique that limits the number of syringes and maximises natural aesthetic results via GAIS questionnaire (Global Aesthetic Improvement Scale).

Materials & method

The study was conducted over a period of 30 months between February 2016 and August 2018 in the private clinic of the first author at Nice, France, requesting the aesthetic injection on the face as a daily clinical intervention.

The inclusion Criteria was the male or female healthy subjects between 20 to 50 years old with no known allergies to HA fillers who wish to have an aesthetic injection and accept to sign the consent form. The non- inclusion criteria were the pregnancy or breast feeding, any aesthetic procedures or surgeries for a minimum of 1 year prior to the inclusion, any autoimmune or other systemic or local disease or any systemic or local medications which could interfere the results of the study.

After signing the consent form, the subjects were divided into 2 age groups: group 1 from 20 to 34 yrs and group 2 from 35 to 50 years old. All patients were treated with a cross-linked HA dermal filler range (ART FILLER® range, Laboratoires FILLMED, France, 1-1.2 ml syringes containing 20-25mg/ml HA and 3mg/ml lidocaine hydrochloride).

Injection points

According to the author exclusive protocol (Dr Frederic Braccini), the injection volume is defined as table 1 according to the age and the injection zone:

Treatment outcome was evaluated based on the following methods:

Patient Global Aesthetic Improvement Scale (GAIS) (-1 worsened, 0 no change, 1 visible improvement).

– Physician Global Aesthetic Improvement Scale (GAIS) (0=No changes, 1=minimal improvement, 2=mild improvement, 3= visible improvement, 4=significant improvement) performed by Physician 1.

– Photographic assessment (before and immediately after treatment) based on the digital photography by Sony camera 7.2 megapixels evaluated independently by Physician 2 (0=No changes, 1=minimal improvement, 2=mild improvement, 3=improvement, 4=significant improvement).

Table 1 authorised injection volume according to the protocol

	Groupe 1 20-34 yrs	Group 2: 35-50 yrs
Jawline	0.2 – 0.4 ml	0.4 – 0.6 ml
Malar area	0.2 – 0.4 ml	0.4 – 0.6 ml
Tear Trough	NA	0.4 – 0.5 ml
Nasolabial fold	0.2 – 0.4 ml	0.2 – 0.4 ml
Nasal area (Sheen lines)	0.2 – 0.4 ml	0.4 – 0.5 ml
Labio-mandibular fold (Marionette line)	0.2 – 0.4 ml	0.4 – 0.6 ml
Eyebrow tail	0.2 – 0.4 ml	0.2 – 0.4 ml
Total	1.2 – 2.4 ml	2.4 – 3.6 ml

Results

162 patients were included; 146 females and 16 males with mean age of 39yrs old (39.4 ± 7.3): 64 patients in group 1 (20 to 34 yrs) and 98 patients in group 2 (35 to 50 yrs) (Table 2).

Table 2 Demographic data

	Groupe 1 20-34 yrs	Group 2: 35-50 yrs	Total
Mean age	29.1 ± 3.2	44.6 ± 4.7	39.4 ± 7.3
Male	9.3% (n=6)	10.2% (n=10)	9.9% (n=16)
Female	90.7% (n=58)	89.8% (n=88)	90.1% (n=146)
Total	64	98	162

In global, 97 patients (59.9%) received 2 syringes, 49 (30.2%) received 3 syringes, and 16 (9.9%) received only 1 syringe. For the

patients in Group 1, 75% (48 patients) received 2 syringes and 25% (16 patients) received only 1 syringe while among the patients in Group 2, 50% received either 2 or 3 syringes (49 and 49) (Table 3).

Table 3 Total injected syringes per age group

	Groupe 1 20-34 yrs	Group 2: 35-50 yrs	Total
1 syringe	25% (n=16)	NA	9.9% (n=16)
2 syringes	75% (n=48)	50% (n=49)	59.9% (n=97)
3 syringes	NA	50% (n=49)	30.2% (n=49)
Total	64	98	162

Patient GAIS

The results of the patient satisfaction scale are summarized in table 4. Among all 162 patients, only 2 subjects (1.2%) reported "no change" on GAIS questionnaire and 98.8% of the patients were satisfied of their treatment. These 2 patients were classified in group 1 and had only 1 syringe injected.

Physician GAIS

The results of the physician satisfaction scale is summarized in table 5. All patients had a degree of the improvement from mild to significant by both evaluators: 100% and 99.4% of patients had the visible and significant improvement according to the first and second evaluator respectively. The mild improvement was reported by the independent evaluator for only one patient in group 1 treated with only one syringe.

Table 4 Patient Satisfaction Scale according to the age group and number of injected syringes

		Worsened -1	No change 0	Visible improved+1	Total
Groupe 1	1 syringe	0	12.5% (n=2)	87.5% (n=14)	16
	2 syringes	0	0	100% (n=48)	48
Groupe 2	2 syringes	0	0	100% (n=49)	49
	3 syringes	0	0	100% (n=49)	49
Total		0	1.2% (n=2)	98.8% (n=160)	162

Table 5 Physician Satisfaction Scale according to the age group and number of the injected syringe

		No change 0		Minimal improvement 1		Mild improvement 2		Visible Improvement 3		Significant improvement 4		Total
		PH1	PH2	PH1	PH2	PH1	PH2	PH1	PH2	PH1	PH2	
Groupe 1	1 syringe	0	0	0	0	0	6.2% (1)	25% (4)	31.3% (5)	75% (12)	62.5% (10)	100% (16)
	2 syringes	0	0	0	0	0	0	0	16.7% (8)	100% (48)	83.3% (40)	100% (48)
Groupe 2	2 syringes	0	0	0	0	0	0	16.3% (8)	30.6% (15)	83.7% (41)	69.4% (34)	100% (49)
	3 syringes	0	0	0	0	0	0	0	14.3% (7)	100% (49)	85.7% (42)	100% (49)
Total		0	0	0	0	0	0.6% (1)	7.4% (12)	21.6% (35)	92.6% (150)	77.8% (126)	100% (162)

Photographic results

Case 1: Treatment with one syringe of ART FILLER® Universal (1.2ml) on eyebrows tail (0.2ml), Mid face (0.4 ml), Zygomatic area (0.2ml), Naso- labial fold (0.2ml) and Inferior Lip (0.2ml) (Figure 3).

Case 2: Treatment with two syringes of ART FILLER® Universal (2.4ml) on nose (0.4ml), Midface (0.6ml), Naso-labial folds (0.6ml), Marionette line (0.4ml) and Lips (0.4 ml), (Figure 4).

Case 3: Treatment with two syringes of ART FILLER® Universal (2.4

ml) on Midface (0.6ml), Naso-labial folds (0.8 ml) and Lips (1.0ml), (Figure 5).

Case 4: Treatment with 3 syringes of ART FILLER®: 2 syringes of AF Universal (2.4ml) and 1 syringe of AF Volume (1.2ml) on eyebrow tail (0.4ml), nose (1.0 ml), midface (1.2ml) and lips (1.0ml) (Figure 6).

Case 5: Treatment with 3 syringes of ART FILLER®: 2 syringes of AF Universal (2.4ml) and 1 syringe of AF Fine Lines (1.0ml) on forehead (1.0 ml), eyebrow tail (0.4 ml), nose (0.6 ml), nasolabial fold (0.4ml), lips (0.6 ml) and mandibular line (0.4ml) (Figure 7).



Figure 3 A 32yrs old patient of group 1 needs only the enhancement of the highlighting point. (a) before; (b) after; (c) injection points; (d) after photo lateral view.



Figure 4 A 48 yrs old patient of group 2 seeking volume restoration treatment to defy the effects of time and gravity treated with 2.4 ml of HA Filler. (a) before; (b) after injection.



Figure 5 A 34yrs old patient of group 1 needs the enhancement of the highlighting point. (a) before; (b) after injection.



Figure 6 A 38 yrs old patient of group 2 seeking the volume restoration on midface, medical rhinoplasty and lips contouring. (a) before; (b) after injection.



Figure 7 a 42 female patient of Group 2 treated with 3 syringes of medium HA filler (Art Filler® Universal) and 1 syringe of superficial HA filler (Art filler® Fine lines) on Forehead, Eyebrow, nose, Naso-labial folds, Lips and mandibular line.

Discussion

Although the use of HA fillers may be associated with various complications related to product volume or injection technique¹⁴ we have noted no adverse effects in this study. This can be explained by the optimized use of HA fillers in order to achieve the desired aesthetic results with using fewer syringes as well as a deep analysis of facial anatomy.

In this study, we were able to demonstrate the efficacy of the “Less is more” technique in both age groups that were treated for different reasons. Patients included in Group 1 were younger and had consulted for maintaining their appearance and enhancing the natural highlights points of the face, while patients that were included in Group 2 were seeking volume restoration treatment to defy the effects of time and gravity. Both groups showed an acceptable satisfaction and experienced an overall improvement in self-esteem and better self-perception.³

The use of fewer syringes rendered a natural outcome and none of the patients experienced an undesired exaggerated result. Only 2 patients from Group 1 felt that more syringes were needed. This approach is also less costly for the patient¹⁵ and reduces the statistical risk of complications linked to the use of more syringes.

We were able to treat negative facial expressions and restore volumes in the patients of Group 2 who were all satisfied with treatment outcomes. This could support the Less is More concept and to encourage the doctors to start softly. The satisfaction rate is not directly related to the number of the syringes but is related to the clinical results.

Conclusion

The “Less is More” concept presented here is the result of careful reflection about technique, artistic approach and safety applied to the use of hyaluronic acid fillers for the face. This trend is aimed at using HA fillers efficiently, in order to achieve an ideal result that maintains a natural-looking appearance for the patients using a smaller quantity of product.

Conflicts of Interest

There is no conflict of interest for FB and NE. FF is employee of FILLMED Laboratories as scientific Director.

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