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The Boomerang Lift

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Published in:
Plastic and Reconstructive Surgery

DOI:
[10.1097/PRS.0000000000005334](https://doi.org/10.1097/PRS.0000000000005334)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2019

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Gülbitti, H. A., Tanaydin, V., Bouman, T., & van der Lei, B. (2019). The Boomerang Lift: A Three-Step Compartment-Based Approach to the Youthful Cheek. *Plastic and Reconstructive Surgery*, 143(3), 660E-662E. <https://doi.org/10.1097/PRS.0000000000005334>

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acid fillers have multiple effects. Hyaluronic acid acts not only as a tissue augmenter but also as a biostimulatory inducer (i.e., it enhances the formation of extracellular matrix and the production of new tissue). Physicians dealing with hyaluronic acid fillers should sufficiently understand these pleiotropic properties.

We performed this study because we occasionally observed a sustained tissue-volumizing effect in the clinical setting more than 1 year after hyaluronic acid filler treatment when hyaluronic acid was subcutaneously injected using the bolus injection technique. We examined the histologic changes inside and outside the injected hyaluronic acid filler using an in vivo rodent model. This experiment revealed that hyaluronic acid stimulated the surrounding tissues and acted as a scaffold for autologous tissue proliferation, thereby resulting in the development of lattice structures by fibroblasts and induction of collagen fibers. The hyaluronic acid filler-injected space was gradually replaced by autologous tissues composed of fibroblasts, connective tissue, blood vessels, and adipocytes. Therefore, the partial replacement by autologous tissues caused a long-lasting effect despite the hyaluronic acid filler being gradually metabolized and absorbed. In several clinical cases of treatment with hyaluronic acid filler, hyaluronic acid-injected sites could not be recovered to their original condition even when hyaluronidase was injected into the treatment site. Thus, newly generated autologous tissues within the hyaluronic acid filler-injected space may be associated with these irreversible mechanisms.

Although there are some differences between an animal model and a human, the results of our experiment can be applied to clinical hyaluronic acid treatments. It may be beneficial to not only inject the hyaluronic acid filler into the intradermal layer but also add a bolus injection into the subcutaneous layer to obtain a long-lasting effect. Furthermore, physicians should consider hydrophilicity (the volume of the hyaluronic acid filler increases by approximately 1.8-fold 4 weeks after injection), shape deformation (the height of the hyaluronic acid filler reduces by two-thirds 4 weeks after injection), and autologous tissue production characteristics over time for controlling the amount of hyaluronic acid filler during the initial treatment.

Two concerns are considered as future perspectives. Currently, there are various types of commercially available hyaluronic acid fillers that differ in viscosity, elasticity, and concentration. However, in the present experiment, we elucidated the in vivo kinetics of only one hyaluronic acid filler (Juvéderm Vista ULTRA PLUS; Allergan plc, Dublin, Ireland). Therefore, it is necessary to examine which hyaluronic acid fillers act as a scaffold and which cause calcification or granulation, resulting in a risk of developing a lump in the future. Second, hyaluronic acid fillers may be developed into regenerative medicine in the near future if specific cells (adipocytes or chondrocytes) can be grown in hyaluronic acid-injected spaces by incorporating them into the filler before injection.

DOI: 10.1097/PRS.0000000000005333

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None of the authors has a financial interest in any of the products, devices, or companies mentioned in this communication. No funding was obtained.

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The Boomerang Lift: A Three-Step Compartment-Based Approach to the Youthful Cheek

Sir:

With great interest, we have read the article of Schreiber et al.¹ concerning the “boomerang lift,” a successful (and proven) way to augment the lateral sub-orbicularis oculi fat, the medial sub-orbicularis fat, and the deep medial cheek with autologous fat. As we all know, facial fat atrophy occurs with aging and results, together with fat redistribution, in the typical aging features of the face. Augmenting the deflated fat compartments will surely, if adequately performed, restore several “youthful” aspects of the face. However, volume restoration is not the only aspect of facial rejuvenation: skin texture and facial tissue ptosis are also aspects that can significantly “age” the face and should be treated.

All the aspects mentioned above are known to us and to the authors. However, the reason for our correspondence focuses on their choice of the photographs of their case illustration to demonstrate the effect of

the boomerang lift. We found it quite interesting that the before-and-after photographs (Fig. 3, *left* and *right*) at first sight show a remarkable difference in appearance and indeed tend to immediately convince us of the clinical strength of the boomerang lift. However, on scrutiny, it becomes quite obvious why we feel and experience such a huge difference and improvement of facial appearance. This is attributable to the “beauty is around the eye of the beheld” principle: we mainly look to the eyes and the area around it (and to the lips) when we look to a face. This has clearly been demonstrated by psychologists by means of eye-tracking studies.² When some aspects in and around the eyes are (even slightly) deformed and/or subsequently changed or improved, it will have a significant effect on our perception of improvement of facial appearance. In Figure 1, *left*, the patient appears significantly tired and fatigued because of coverage of her pupils by the upper eyelid: it appears as if she has ptosis of the upper eyelid (which might be attributable to the moment at which the picture was taken), whereas this is not the case in Figure 1, *right*. Although Figure 1, *right*, shows volume improvement of the cheek area by the boomerang lift, the main improvement experienced by the observer is undoubtedly the position of the eyelid. The “beauty is around the eye of the beheld” principle determines in this case the significant great effect of facial improvement, which is not that much the case with same eyelid opening (Fig. 1, *center*) [the eyes were morphed by Photoshop (Adobe Systems, Inc., San Jose, Calif.) to show the principle of beauty is around the eyes of the beheld]. As an old teacher in my in the far past once said, “if you want to show at a presentation your

best results of facelift patients with significant youth improvement, show them cases of which also the eyelid appearance has been improved by eyelid surgery.” Nevertheless, the authors are to be congratulated for their excellent study with demonstration of the volume effect of their boomerang lift.

DOI: 10.1097/PRS.00000000000005334

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Fig. 1. (*Left*) Preoperative photograph of the patient. The patient appears significantly tired and fatigued because of coverage of her pupils by the upper eyelid. (*Center*) Morphed image of this patient. Appearance of the eyes postoperatively was morphed into the preoperative situation. (*Right*) Six-month postoperative photograph following the boomerang lift. (*Left* and *right*, from Schreiber JE, Terner J, Stern CS, et al. The boomerang lift: A three-step compartment-based approach to the youthful cheek. *Plast Reconstr Surg.* 2018;141:910–913. Republished with permission from Wolters Kluwer Health, Inc.)

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DISCLOSURE

There has been no financial support for this communication, and the authors have no financial interests to declare in relation to its content.

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Do Adolescents with Gynecomastia Require Routine Evaluation by Endocrinology?

Sir:

We read with interest the article by Malhotra et al. published in *Plastic and Reconstructive Surgery* in July of 2018 entitled “Do Adolescents with Gynecomastia Require Routine Evaluation by Endocrinology?”¹ The authors concluded that, because a majority of secondary gynecomastia cases (67 percent) were drug-induced, a routine endocrinology workup is not indicated, as it adds little value. The authors’ data suggest that referral for surgery is warranted if gynecomastia persists beyond 16 years of age.

If the question of the assessment in case of gynecomastia arises in the child and the teenager, it is the same in adults. Thus, attitudes are extremely variable from one team to another, ranging from a simple clinical examination for some, to the combination of hormonal balance and important imaging for others.^{2–4} We wonder about the interest of carrying out such a report.

This letter respects the statement of institutional review board approval and/or statement of conforming to the Declaration of Helsinki. Between January 1, 2014, and December 31, 2017, we worked on a retrospective analysis of all patients who requested surgical management of bilateral gynecomastia admitted to Saint Louis Hospital having previously consulted no endocrinologist. All patients benefited from preoperative interrogation, clinical examination (including testicular examination), endocrinologic investigation (testing for human chorionic gonadotropin, luteinizing hormone, testosterone, estradiol), and a testicular ultrasound examination as the French Endocrinology Society recommends.

A total of 174 patients were included in the study. The patients were on average 29.6 years old (range, 16 to 61 years). None had a clinical sign for any cause at the first consultation.

In total, only one patient (1.1 percent) had an abnormal laboratory test (increased testosterone) following anabolic steroids. Thirty-two patients were obese at the consultation (body mass index >35 kg/m²), and 141 had no obvious cause to explain their gynecomastia.

For 64 percent of patients, gynecomastia occurred in adulthood, including the patient who had taken hormone treatment (anabolic steroids). The other 23 patients had seen their gynecomastia appear during adolescence.

The number of secondary gynecomastia cases is somewhat lower in our series than in the literature. Mieritz et al.,⁴ in 2017, found secondary gynecomastia to occur as a secondary cause in 7.7 percent of 786 patients, and Costanzo et al.⁵ found gynecomastia of idiopathic origin in only 45 percent of cases and that of secondary origin in only 25 percent of cases.

Thus, during these 3 years, we carried out a biological and imaging assessment for all patients consulting for gynecomastia. This assessment proved to be contributory for only a single patient to identify a cause.

In addition to the stress and the significant cost (\$389) that this represents, these reports have proved to be of little help and have had no therapeutic impact on patients. Thus, as suggested by Malhotra et al. for adolescents and children, we believe that hormonal and imaging paraclinical results are of extremely low interest. It would be advisable to prescribe it only in case of indication on clinical examination (interrogation and physical examination).

DOI: 10.1097/PRS.0000000000005335

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this communication. No funding was received for this work.

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