

LETTER TO THE EDITOR

Nonsurgical genioplasty

Dear Editor,

Chin contributes to facial balance and harmony. Appropriate treatment of aesthetic deformities of the will often improves the appearance of the mouth, lips, and nose. Augmentation of the chin can be performed with injectable fillers or autologous fat, placement of an alloplastic chin implant, or with chin's bony osteotomy. Determining the best procedure for a patient requires careful consideration of his anatomy, as well as the risks and benefits of each treatment. Fillers offer a nonsurgical, nonpermanent method of correction of chin retrusion in the appropriate patient.

We describe a case series of 200 patients, which have been treated with chin corrections by means of VYC-20 hyaluronic acid in order to create a treatment algorithm for chin defects thereby recording technique, amount of filler and complication rate in our patients.

Seckel divided the face into seven functional danger zones.

Danger Zone 3: Includes the marginal mandibular branch of the facial nerve, facial artery, and vein.

Danger Zone 7: Contains the mental nerve, which carries sensory innervation to ipsilateral chin and lower lip.

TABLE 1 Complications during nonsurgical genioplasty

Complication	No. of patients	Percentage
Bruising	15	7.5%
Swelling	11	5.5%
Edema	8	4%

FIGURE 1 Before and after hyaluronic acid filler (left-side after, right-side before) frontal view



Focus on patient's examination. Preoperative photos were taken.

Stop all blood-thinning agents starting 1 week prior to the procedure to reduce bruising.

The chin can be divided into six subunits using the MD Codes classification. Volumizing a single area often leads to inadequate aesthetic results.

High G-prime, high viscosity hyaluronic acid (HA), was used. A 27-gauge needle can be used for deep injections subperiosteally, and we advise using blunt cannula to make refinements. The bimodal approach for filler injection into the chin can be beneficial doing deep injections to augment the mandibular structure, followed by injections in the subcutaneous fat layer to improve contouring. We used an average of 4 mL of high G-prime HA per patient.

Immediately after procedure, we gave ice pack for 30 min.

We treated 200 patients (147 women, 53 men) aged 21–48 (average 34.6 years old).

Follow-up: after 3 days, 1 week, 1 month, and 8 months.

Clinical photos were taken 2 weeks and 8 months after procedure. Side effects: see Table 1. Also, refer Figures 1 and 2.

HA fillers are used for their characteristics (Bertossi et al., 2013), if the patient does not like the result or if there are adverse effects hyaluronidase can be used. At this point, a clear treatment plan is necessary to justify the possible choices offered to our patients after our clinical records.

In our study, we have used the Arnett's analysis (soft tissue cephalometric analysis (STCA); Arnett & Gunson, 1993).



FIGURE 2 Before and after hyaluronic acid filler (left-side after, right-side before) lateral view

With regard to complications, the chin region is considered a safer area, as very few cases of postfiller vascular complications have been reported in literature, skin necrosis and lingual necrosis were the worst.

Injection techniques such as pretunneling, use of a blunt cannula, aspiration before injection, slow injection, low-pressure injection, moving the needle while injecting, and use of a small bolus per injection should be applied to minimize complications. Close and consistent observation of patients after filler injection is necessary. If signs and symptoms are observed, the patient must return and undergo further examination. Diagnosis and treatment should not be delayed.

The first-choice therapy for vascular occlusion due to HA is the use of hyaluronidase, an enzyme that catalyzes HA hydrolysis. Treatment is conducted with a focus on proper timing (DeLorenzi, 2017). Hyaluronidase should be immediately injected into the affected area once the diagnosis is confirmed (Fang, Rahman, & Kapoor, 2018), or even suspected. Delayed injection will undoubtedly be an obstacle to saving tissues from ischemia.

It is important to choose the right patient to maximize results and give him a predictable and stable outcome (Bertossi et al., 2015; Guyuron & Raszewski, 1990; Richard et al., 2001; Trauner & Obwegeser, 1957; White & Dufresne, 2011). The best results arrive when:

- Low sagittal deficiency or with mild asymmetry, with normal, mild, and reduction of soft-tissue chin thickness.
- Sagittal deficiency, with no asymmetry with mild or severe reduction of soft-tissue chin thickness.

DISCLOSURE OF INTERESTS

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or nonfinancial interest (such as personal or professional relationships,

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