

Isolated Medial Platysmaplasty and Harmonization of the Lower Third of Face with Local Fat Autograft: A Case Report

Anastasiya S. Borisenko, MD, PhD
 Valentin I. Sharobaro, MD, PhD
 Nigora S. Burkhonova, MD
 Alexey E. Aydeev, MD, PhD
 Alexander A. Ermolaev, MD
 Yousif M. Ahmed Alsheikh, MD

Summary: One of the most common complaints of patients seeking plastic surgery is the presence of age-related changes in the lower third of the face. These often include vertical platysmal bands, a double chin, Venus rings, the absence of the cervico-mental angle, hypertonicity of the muscles in the mental area, and insufficient projection of the chin. The development and implementation of less-traumatic methods of correction of the lower third of the face and harmonization of the projection of the cervico-mental region remain relevant. This article discusses a comprehensive and individualized approach with minimally invasive techniques for correcting age-related changes in the lower third of the face and harmonizing the definition of the jawline. Isolated platysmaplasty with autologous local fat grafting to the chin is effective, safe, minimally invasive, and has a short rehabilitation period, with stable long-term aesthetic outcomes. (*Plast Reconstr Surg Glob Open* 2024; 12:e5897; doi: [10.1097/GOX.0000000000005897](https://doi.org/10.1097/GOX.0000000000005897); Published online 11 June 2024.)

INTRODUCTION

Currently, facial aesthetic procedures are among the most sought-after procedures in the field of plastic surgery. Patient demand for plastic surgery continues to increase, propelling the field to swiftly evolve and refine surgical techniques. Notably, in the domain of lower facial rejuvenation, it is imperative to not only prioritize achieving aesthetically pleasing outcomes but also to continually enhance the techniques that promote minimally invasive approaches as well as the use of diagnostic imaging such as ultrasound and computed tomography to optimize post-operative recovery for patients.^{1,2} Various aesthetic procedures can be used to address these issues, such as isolated medial platysmaplasty, liposuction of the cervico-mental area, mentoplasty with implant placement, and lipomodelling of the contours of the lower jaw and mental area. The choice of the most appropriate corrective strategy relies on a meticulous assessment of the patient's unique anatomical features and the extent of age-related alterations in the lower third of the face.

From the Department of Plastic Surgery, I.M. Sechenov First Moscow State Medical University, Moscow, Russia.

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METHODS OF CORRECTION OF THE NECK AND MENTAL AREA

The most common method for surgical correction of the cervico-mental area is liposuction with medial platysmaplasty. Initially, the procedure was performed by direct excision of the skin in the middle part of the neck.³ However, this technique left visible scars on the neck, which later led to disappointment for both the patient and the surgeon.⁴

The method of anterior platysmaplasty involves a transverse skin incision along the submental crease or a skin dissection slightly lower to the cricoid cartilage. Then, the medial pedicles of the platysma are isolated and sutured along the midline from the submental area to the thyroid cartilage.³

Currently, to achieve a well-defined jawline, medial platysmaplasty is often combined with liposuction or lipectomy. The removal of preplatysmal fat can be performed through a submental incision or via liposuction.⁵

It is important to remember that a normal, aesthetic neck has an obligatory layer of subcutaneous fat. This fat provides both a smooth contour and a glide plane along the platysma.^{6,7}

The decision to excise the subplatysmal fat is made intraoperatively. Its reasonable removal leads to an

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improvement in the contours of the neck, but excessive removal leads to secondary mental depression and deformation of the mental area. Thus, if subplatysmal fat needs to be removed, the surgeon must perform a safe mid-line closure over the defect.⁷⁻⁹ In patients with an obtuse cervico-mental angle and good skin elasticity, usually, one liposuction or open lipectomy with platysmaplasty is sufficient.¹⁰

The approach used in anterior platysmaplasty is ideal for removing excess subplatysmal fat, protruding submandibular glands, bulky anterior digastric bellies, or “hard” dynamic platysmal bands.⁴ A study by Kochuba¹¹ demonstrates the effectiveness of median platysmaplasty with the correction of subplatysmal structures in patients with a neck with an obtuse cervico-mental angle.

The use of autologous fat graft has been described before, demonstrating an effective result in chin augmentation and improvement of the face proportions.¹² However, the lipofilling is unpredictable and results are not maintained in the long term. Therefore, a whole subplatysmal fat autograft seems to be an excellent option to improve the chin projection and has not been described until now.

Ongoing research and advancements in surgical methodologies continue to refine the management of age-related changes in the lower face, resulting in improved patient satisfaction and outcomes.

CLINICAL CASE

A 42-year-old patient was admitted to the department of plastic surgery of Sechenov University with complaints about age-related changes in the soft tissues of the neck, insufficient projection of the chin, and uneven contours of the soft tissues of the lower jaw. Less than 6 months before the appointment, she underwent lipolytic injection into the cervico-mental region, biorevitalization of the skin, and RF lifting, but was not satisfied with the result. During clinical examination, an excess subcutaneous fat tissue in the mental area was palpable. At the preoperative stage, CT examination of bone and soft tissue structures of the cervico-mental region was performed, with a low-lying hyoid bone, excess fatty tissues of the cervico-mental region, weakness of the platysma, and digastric muscles. All the noted features form an obtuse cervico-mental angle equal to ± 150 degrees (Fig. 1). (See figure, Supplemental Digital Content 1, which shows CT examination of the hyoid bone position before surgery. <http://links.lww.com/PRSGO/D276>.)

Ultrasound examination of the cervico-mental area showed insufficient projection of the chin due to the thin skin-muscle compartment of the mental protrusion. It was decided to perform liposuction of the cervico-mental area, medial platysmaplasty, and extension of the projection of the mentum by a subplatysmal fat autograft.

The patient signed an informed consent form. The marking was made by the vector that visualized the maximum lifting.

Takeaways

Question: Patients are always looking for minimally invasive yet effective methods for the harmonization of the lower third of the face and improvement of the cervico-mental region projection.

Findings: Isolated medial platysmaplasty and subplatysmal fat autograft in the chin through a minimal incision in the submental crease are effective and safe procedures for the harmonization of the lower third of face.

Meaning: One small incision along the submental crease is enough to improve the proportions and angles of the neck and the lower third of the face.

SURGICAL TECHNIQUE

1. Under endotracheal anesthesia, a puncture was made under the earlobe to infiltrate the cervico-mental area using Klein’s solution with a volume of 100–150 mL. Infiltration was performed with a cannula with a diameter of 2 mm.
2. Lipoaspiration of adipose tissue from the neck area was performed, with a volume of 100 mL.
3. The surgical incision was placed in the submental fold; it prevents the accentuation of the “double chin”



Fig. 1. Analysis of the cervico-mental angle before the surgery; in this patient, the angle is 155 degrees.



Fig. 2. Intraoperative picture that shows the position of the transplanted autograft.

and “witch’s chin” deformities while providing an easier dissection and suturing in the anterior neck.

4. Dissection of the soft tissues of the cervico-mental area was performed.
5. The subplatysmal fat excess was resected, which later served as an autograft to increase and harmonize the projection of the mental protrusion.
6. The digastric muscles were partially resected.
7. The digastric muscles were brought together and sutured using Ethibond 2.0 thread.
8. A pocket was dissected in the chin, between the muscle and fat layers to further increase the projection of the mental protrusion.
9. The fat subplatysmal autograft was modeled and placed in the mental area, then sutured and additionally fixed with fibrin glue. The fat subplatysmal autograft is safe, rigid in structure and has a minimum degree of revision, as it is a local tissue¹³ (Fig. 2).
10. The condition of the submandibular salivary glands is usually assessed and, if necessary, they are partially removed to achieve the most ideal result. In this case, it was not necessary.
11. The wound was finally sutured by planes. Additional sutures were placed to improve skin retraction and definition of the neck contours. The hemostatic sutures are performed with Prolene 5-0, and they are aimed to stay in place only in the early period of cicatrization. We remove the sutures after 3 days; therefore, there are no permanent marks (Fig. 3).

A postoperative photograph shows the result after 12 months after the surgical procedure. Patient A was satisfied with the result. A control ultrasound examination of a subplatysmal fat autograft showed 75% fat graft engraftment, and $\pm 25\%$ underwent resorption. The proportions of the



Fig. 3. Intraoperative picture of the final result.



Fig. 4. Patient 12 months after rejuvenation of the lower third of the face. Note that the cervico-mental angle is now 110 degrees, showing a stable long-term result.

cervico-mental angle correspond to the “golden ratio” aesthetic standard for the face (Fig. 4).

The patient needs from 1 to 3 months to fully recover. During this period, the collaboration of plastic surgery and cosmetology presented an excellent result. Cosmetic procedures and physiotherapy help to get a favorable rehabilitation

period. The older the patient, the more closely cosmetology and plastic surgery should cooperate, complementing each other to obtain a rejuvenating effect on the skin, both in terms of shape and volume, and tissue quality.

CONCLUSIONS

To obtain a harmonious result from surgical correction of age-related changes in the face and neck, it is necessary to evaluate the anatomical features of the patient and the proportions of the mental protrusion. Isolated platysmaplasty with autologous local fat grafting to the chin is effective, safe, minimally invasive, and has a short rehabilitation period, with stable long-term aesthetic outcomes.

Anastasiya S. Borisenko, MD, PhD

Trubetskaya Str., 8-2

Moscow 119992, Russia

E-mail: dr_borisenko@mail.ru

Instagram: @dranastasia.borisenko

DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

PATIENT CONSENT

The patient provided written consent for the use of her image.

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