

SUBMENTAL LIPOSUCTION, AN ALTERNATIVE TO LIPOLYSIS WITH MESOTHERAPY INJECTIONS OR A COMPLEX SURGERY?

Ferdiola Gjonaj

University of Medicine of Tirana, Tirana, Albania, gjonaj.ferdiola@gmail.com

Vladimir Filaj

Burn and Plastic Surgery Unit; University of Medicine of Tirana, Albania, Tiranë, drvfilaj@yahoo.fr

Ergelto Zekollari

International German Hospital, Tirana, Albania, ergelto.zekollari@gmail.com

Ester Tabaku

University of Medicine of Tirana, Tirana, Albania, estertabaku1@gmail.com

Abstract: Submental liposuction, which can be performed alone or as part of a neck lift, is a procedure that contours the jawline and cervicomenal angle by removing fat tissue using the tumescent technique. As with any aesthetic procedure, a complete physical examination of the neck is essential for proper patient selection and achieving excellent results. This technique is usually applied to younger patients who have toned skin, elasticity, the ability to contract, and good adherence of the skin to the underlying structures. We treated 20 patients in our practice with submental liposuction, either as a single procedure or combined with a neck lift, to improve the contour of the submental and neck area. We monitored long-term results as well as patient satisfaction, complications, and side effects.

A thorough examination is essential because some conditions cannot be treated with liposuction alone, and it is important for patients to be prepared to avoid disappointment. Very thin skin, “like onion peel,” predicts a poor outcome except in cases combined with lifting. The presence of multiple and deep horizontal or oblique wrinkles on the neck indicates that the skin will not retract properly after surgery. With aging, fat may accumulate above or below the platysma. Fat above the platysma can be easily removed through liposuction. With the neck in extension, we assess whether the fat is above or below the platysma. Typically, a medium fat thickness of 1.5–2.0 cm in the pinch test is indicative of a good outcome. A low position of the hyoid–thyroid complex may limit the achievement of a clear cervicomenal angle, compromising the final result.

In patients with visible platysmal bands, whether or not there is animation, liposuction should be performed carefully as it may accentuate this deformity. In those with prominent submandibular glands, aggressive liposuction may make them more visible.

Submental liposuction should be performed with limits. Excessive fat removal can cause contour irregularities or make the neck appear excessively thin (skeleton effect). What may seem like a minimally invasive and not very complex procedure to a non-specialist in plastic surgery can result in disappointment and loss of trust in plastic surgery. Special attention should be paid to aesthetic complications, which have as much impact on the patient’s psychology as hematomas, infections, and other complications.

Keywords: Liposuction, platysma, complications, retraction, toning.

1. INTRODUCTION

Facial rejuvenation surgery has significantly evolved, with techniques addressing the midface, jawline, and periorbital region. However, the neck remains a distinct challenge due to its anatomical complexity and high visibility in daily interactions. Signs of aging such as loss of cervicomenal angle definition, platysmal laxity, and jowl formation are particularly disturbing for patients seeking neck liposuction.

As the neck plays a central role in overall facial harmony, its treatment has become a cornerstone in aesthetic surgery. This section reviews the historical evolution of neck liposuction techniques and adjunctive procedures like neck lift, submandibular gland repositioning, and fat grafting. The neck presents unique rejuvenation challenges; treatment of platysmal laxity, adiposity, and skin redundancy is central to facial harmony. Submental liposuction alone or as an adjunct to neck lift, is a procedure that helps restore the jawline and cervicomenal angle by removing excess adipose tissue using tumescent technique.

Initially performed in the late 1970s via a lateral approach and a larger cannula, it has since evolved into a procedure performed with smaller cannulas and a submental incision. Liposuction of the mandibular border, jowl, and cheek has also been added to improve the contour of the lower face. The goal of such an operation is to achieve the criteria demonstrated in youthful necks.

Criteria of a youthful neck include: a distinct inferior mandibular border from mentum to angle with no jowl overhang, a visible subhyoid depression, a visible thyroid cartilage bulge, a visible anterior sternocleidomastoid bulge, a submental-sternocleidomastoid line angle of 90° or a cervicomental angle of 105–120°. It is the duty of practitioner to identify and be careful with patients that have special conditions that could worsen appearance of the neck.

2. MATERIALS AND METHODS

This study was conducted at three specialized centers (the University of Medicine of Tirana, the Burn and Plastic Surgery Unit at “Mother Teresa” University Hospital, and the International German Hospital in Tirana) between June 2023 and July 2025. The study design was a retrospective-prospective clinical analysis of patients undergoing neck liposuction surgery, either as an isolated procedure or in combination with a neck lift.

Patient Selection and Inclusion Criteria: Twenty patients (17 female, 3 male) aged 30–67 years were included. Eligible candidates presented for liposuction alone included: subcutaneous fat, good skin quality.

Exclusion criteria included prior neck surgery, history of keloid formation, severe comorbidities that contraindicated anesthesia, and unrealistic patient expectations.

Preoperative Assessment: All patients underwent a standardized evaluation protocol that included: detailed medical history and physical examination with focus on neck anatomy, platysmal bands, subcutaneous and subplatysmal fat distribution, and submandibular gland prominence; high-resolution photographic documentation from multiple angles (frontal, lateral, and oblique views); and skin quality grading with cervicomental angle measurement.

Postoperative Care and Follow-Up: Patients were discharged from the hospital the same day, some hours after the surgery. Compression dressings were applied for one week, and sutures were removed on day 7–10 post-surgery. Follow-up visits occurred at 1, 3, 6, and 12 months, evaluating wound healing, scar maturation, cervicomental angle restoration, and patient satisfaction via a standardized questionnaire (5-point Likert scale). Any complications, such as hematoma, infection, nerve injury, or contour irregularities, were documented and managed according to best practice protocols.

3. RESULTS

All patients demonstrated significant improvement in cervicomental contour. Satisfaction rates were high, with 19 of 20 patients reporting marked improvement. Complications included one case of transient marginal mandibular weakness and one case of minor wound infection, both of which resolved with conservative management. All cases of liposuction alone had no complication. Compared with existing literature, our results align with studies reporting enhanced outcomes through combined submentoplasty techniques. However, analysis confirms that results vary depending on skin quality, degree of platysmal laxity, and patient compliance with postoperative care. Aesthetic complications, such as asymmetry or visible scarring, remain important concerns that influence psychological well-being.

4. DISCUSSIONS

The results of this study reinforce the role of neck liposuction surgery as a pivotal component of facial rejuvenation, particularly in patients with advanced cervical bulge. The combination of liposuction with direct submentoplasty allowed comprehensive access to the platysma and surrounding structures, yielding consistent improvements in cervicomental definition and overall facial harmony.

Preoperative skin quality correlated with the longevity of surgical results. Patients with robust dermal elasticity achieved more sustained neck contour improvements, whereas those with severe photodamage or intrinsic laxity experienced earlier recurrence of mild skin redundancy despite an initially satisfactory outcome. These observations highlight the importance of preoperative counseling and, where appropriate, adjunctive skin resurfacing or regenerative therapies.

The complication profile was comparable to published series: a single transient case of marginal mandibular nerve weakness and one minor wound infection, both resolving without sequelae. No hypertrophic or keloid scarring was observed, likely reflecting meticulous technique and careful patient selection.

Comparisons with the literature indicate that combining neck lift with submental liposuction produces more pronounced cervicomental angles, especially in patients with concurrent skin excess. However, this approach requires precise intraoperative judgment to avoid over-resection, which can create unnatural concavities or compromise neck mobility.

Patient-reported outcomes were favorable: at 12 months, 95% reported 'marked improvement' while 5% reported 'moderate improvement'; the latter group tended to have poorer baseline skin quality or suboptimal adherence to postoperative recommendations (e.g., compression garments, activity restrictions). Overall, these findings support a

customized, anatomy-driven strategy in which the interplay of skin quality, platysmal laxity, fat distribution, and patient expectations guides technique selection to optimize aesthetic and psychological outcomes. However, some conditions require more attention because they can alterate results. Crepe paper thin skin is a predictor of a poor outcome unless a concomitant facelift is performed. The presence of multiple, deep horizontal, or oblique creases in the neck predict poor redraping of the skin postoperatively so they dictate adjunction of excisional procedures. In patients with visible platysmal bands with or without animation care should be taken because liposuction can highlight this deformity. In patients with ptotic submandibular glands, jowls and prominent digastric muscles aggressive liposuction can make them more prominent.

A low position of the hyoid-thyroid complex is equal to less well-defined cervicomental angle and may limit the achievement of optimal results. Another limiting factor in achieving an excellent result with cervicofacial liposuction is the amount of subplatysmal fat while access to the subplatysmal space with closed liposuction is potentially dangerous

Future work with larger cohorts and extended follow-up is warranted to refine indications and minimize recurrence.

5. CONCLUSIONS

A thorough preoperative assessment is essential, as certain cervical conditions cannot be corrected with liposuction alone. Our multicenter study of 20 patients confirms that submental liposuction is safe and effective when applied to well-selected candidates, yielding high satisfaction with minimal complications.

Limitations include the small sample size, single-country setting, and follow-up restricted to 12 months. Future multicenter studies with longer observation and comparative designs are needed to refine indications, evaluate recurrence, and integrate new technologies.

Overall, submental liposuction remains a valuable tool in facial rejuvenation, provided that patient selection, counseling, and surgical planning are carefully tailored to individual anatomy.

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