

Short Scar Facelift Without Temporal Flap:

A 10 year Experience

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Authors Disclosure

All authors declare that they have no financial relationships with commercial interest(s) that produce healthcare products or services discussed in the manuscript as well as any relationships or activities that present a potential conflict of interest.

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Background

Facelift surgery continues to be a controversial subject due to the fact that there is no “ideal” surgical technique (1). This has led to the development of several different techniques focusing on being less invasive and traumatic and, at the same time, providing natural long lasting results.

The understanding of facial aging needs an anatomical and physiological analysis (2). Skin flaccidity produced by time, sun exposure and social habits as well as the hypotrophy of the subcutaneous tissue and fat modifies the facial contour. These changes do not occur in a single gravitational vector (3) but as several vectors created by the different fascia attachments and anatomic orifices of the skull. It behaves similar to the face muscles, which have different vectors of contraction/relaxation producing the corresponding skin wrinkles perpendicular to their axis.

The rhytidectomy techniques have been evolving substantially as a result of the improvements in the understanding of facial aging. Passot used small “s” shaped pre auricular incision to treat facial wrinkles (4). Bettman performed a continuous incision similar to the one we use know a days in the classic technique. Skoog develops the concept of skin resection to treat excess flaccid skin.

The description of the SMAS by Mitz and Peyronie generated new ideas to provide better aesthetic and long lasting results (5). The aging characteristics generated by gravity were corrected by releasing the SMAS attachments and repositioning them, obtaining the features of a younger face (6–8). However, many of these new techniques required deep dissection, which generated more trauma, higher morbidity and longer recovery periods (9,10).

SMAS repositioning has been done in several different ways. Saylan, for example, fixed the SMAS by suturing it to the zygomatic arch periostium through the “s” shaped pre auricular incision described by Passot. He did it in an area called “no man’s land” (11).

Baker describes a rhytidectomy using shorter incisions associated with a lateral SMASectomy, direct suture without SMAS dissection and with a temporal flap (12).

With these techniques, the elongation of the inferior eyelid, reduction of malar eminence, loss of volume of the submalar area and the mandibular prominence were greatly resolved. The nasolabial fold had sub optimal results due the fact that the facial fat was treated as being part of the SMAS and was not considered a different facial structure. Newer techniques proposed reposition of the SMAS as well as the facial fat (13). In the composite rhytidectomy proposed by Hamra, the platysma muscle, the malar fat and orbicularis oculi muscle are repositioned (14) obtaining the desired effect. It is important to mention that in a 30 year Pitanguy’s rhytidectomy experience, where he proposes SMAS plicature, round lift technique and points out the direction of SMAS and facial flap traction should have, he is able to obtain results comparable to the ones where the SMAS was elevated (15,16).

The knowledge obtained over the years as well as the need to offer natural results with shorter scars, less dissection/trauma areas and shorter recovery periods motivated us to develop this technique. In this article we describe it step by step, as it has been done over the past 10 years by the senior author.

Methods and Materials

This is a retrospective, descriptive, transversal study in which were included all patients that underwent a rhytidectomy using our technique in the period from January 2002 to September 2012. Information obtained from the medical records included age, sex, if it was a primary or secondary procedure, type of SMAS plication, complications and photographic follow up. All patients were operated under local anesthesia and superficial conscious sedation. All surgeries were performed by the same surgeon.

Surgical Technique

Evaluation of the facial movement and determination of the traction vectors are done with the patient in prone position during the pre op. The 6 traction vectors are determined and drawn on the skin (Figure 1.) These vectors are: malar, nasolabial fold, labial commissure, mandibular border, cervical and brow. No hair trimming is performed.

The limited area of undermining is marked with methylene blue as well as the pre and retro auricular incisions (Figure 2). Local anesthesia consisting of NaCl 0.9/00 + lidocaine 0.35% + adrenaline 1:200,000 + Na Bicarbonate, in a volume of 40-50 cc per each side is infiltrated.

The surgery begins with the submental liposuction. Since the last 6 years we incorporated the Lipolaser technique (application of subdermal laser of the cervical area followed by lipoaspiration). The laser treatment allow us to limit the cervical undermining and to be less traumatic.

The pre and post auricular incisions are made carrying the latter one only half way up the ear concha (Figure 3). Subcutaneous/supraSMAS undermining is performed. The superior limit of

the dissection is 2cm above and parallel to the zygomatic arch, the medial limit lies 2cm lateral to the nasolabial fold. Inferiorly, the cervical flap is only 3-4 cm below the ear lobule dissected.

After careful hemostasia, SMAS plication is performed using the vectors of traction previously determined drawn on the skin are used as a guide. Plication is performed by “U” horizontal mattress sutures using 4/0 nylon. The order of plication is: first the malar vector to reposition the malar fat pad fixing it above the zygomatic arch, followed by the nasolabial fold, labial commissure, mandibular border and finally the cervical vector. In the cervical area, the lateral border of the platysma is sutured over the lateral border of the sternocleidomastoid muscle. Each plication suture should travel 2.5 – 3 cm in length. When necessary, SMASectomy in the mandibular area is performed. Some accessory sutures are placed in between the ones described for a better SMAS accommodation. Normally, there is no need for any fat trimming because, if done correctly, the plication sutures provide good tissue positioning.

Skin traction is performed as described by Pitanguy in his round lifting technique. It is extremely important not to leave any tension on the skin as this will result in facelifting stigmas. During this traction, no elevation of the sideburn should be seen. The skin fixation begins with point A, located at the superior angle of the tragus where it joins the helix . Temporary fixation is performed with a 3/0 nylon suture. Next the ear lobule is fixed into position to the cervical flap with a subdermal absorbable 4/0 suture and a 5/0 nylon at skin level (Figure 4). Next, the cervical traction is performed, sweeping the flap towards the retroauricular fascia concha and fixation is done half way up the auricular concha with one 4/0 absorbable suture (point B) (Figure 5, 6). An extra subdermal absorbable 4/0 stitch is placed between the ear lobule and point B (Figure 7.)

Excess skin is then trimmed away in the pre and post auricular and cervical areas.

In the pos auricular area, a “V” shaped incision is made in the most superior part of the incision only if “dogs ear” appear. Skin is closed with 4/0 nylon (Figure 8,9)

In the pre auricular area, the flap is thinned with fine Iris scissors to eliminate any rough transitions between the ear and flap. A 4/0 absorbable subdermal suture is placed in the pre tragus area to anchor the flap. Skin is closed with simple 5/0 nylon suture. Temporal anchoring sutures are removed.

A suction drain is placed at both sides.

Afterwards, to treat the 6th vector, the lateral brow lift is performed.

Finally, fat grafting is performed with micro-cannulas. Generally the grafted areas are the nasolabial fold (1.5cc per side), marionette lines (1cc per side) and the nasojugal fold and infraorbital area (2-2.5cc.) No infiltration of anesthetic solution is done since the patient is under IV sedation. By not using local infiltration, we do not alter the patient’s features and the post treatment result can be estimated accurately. We have been doing the fat grafting with more frequency now, since we are able to obtain better adipose cell survival using the 1210 wavelength laser.

In the immediate post op, a compressive elastic garment is placed with gauze filled with NaCl ice crushed inside. Compression is left for 24 hours as well as the suction drains. Lymphatic drainage starts on the 5th pos op day until the 10th day. No antibiotic prophylaxis is administered. PO analgesia is indicated.

Results

During January 2002 and September 2012, 113 patients underwent facelift surgery as described above. Of these, 88.9 % were women (104) and 11.1% were men (13). The age ranged between 34 and 82 years, being 55.3 years old the mean. 70% of the patients were between 41 and 81 years old. Primary surgeries represented 80.3% (n=94), 18.8% (n=22) secondary and 0.85% (n=1) tertiary.

Only one major complication representing 0.8% (n=1) consisting of a right sided temporal paresia with 2 months complete recovery was seen. No skin necrosis or alopecia was observed. Minor complications were seen in 26.5% (n=30) The most common minor complication was hypertrophic/keloid scars representing 67.7% of all minor complications. Only six patients required surgical revision of their scars. Other minor complications were seroma 1.8% (n=2), hematoma 1.8% (n=2) and skin epidermolysis 1.8% (n=2).

Mean recovery time was 14 days.

Pre and post op photos are shown. (Figure 10, 11)

Discussion

Numerous techniques have been described in the treatment of facial ageing. These techniques have to deal with complex and multiple aging characteristics such as fat atrophy and redistribution, bone resorption, flaccid skin and the gravity effect (19). All techniques offer good results when performed by experienced surgeons. However there are several differences between them, including the size and shape of the incision, extent and depth of dissection, SMAS and platysma treatment and the direction of skin traction.

Generally, the more we extend and deepen the dissection during the surgery, we have an increased risk of morbidity as well as extended recovery time (return to normal daily activities.) Most of our patients prefer a less invasive procedure with less probability of complications and a quick recovery period. At the same time they want natural long lasting results without any stigmas. There have been several surgeons that have proposed less invasive techniques (20,12). Having smaller incisions is particularly important in South America (Peru) because mestizo type skin has a higher probability of developing hypertrophic or keloid scarring. In our technique, the length of the incision was decreased in 45% by avoiding the intracapilar posauricular and temporal incisions. We consider that the intracapilar incision does not provide any advantages in the cervical treatment but only allows skin placement, concept that we share with Tonnard and Verpaele (20,21). The excess skin can be situated in the retroauricular sulcus. The little wrinkles disappear in the following weeks.

The incision in the temporal area is limited to about 2 cm, enough to treat the “dog ear” that forms. The treatment of the lateral periocular and lateral upper third is accomplished by the lateral brow technique described by the senior author (17), avoiding the temporal flap.

We do not use precapilar temporal incisions. Although it has been described by several authors with good results, we consider that in our patients is not the best choice because of the high incidence of bad scarring. We also believe that pure vertical vectors of traction can cause a flattening of the preparotid area, an area that has already suffered atrophy due to aging (22). We propose that a lateral oblique vector instead of a pure vertical one is better to achieve more natural results. There are articles that support that this type of traction repositions facial tissue resembling how it was when the patient was younger (16,23).

We consider that besides gravity, facial expressions (facial muscles vectors) over the years, influenced by the natural orifices of the skull contribute to the rearrangement of tissue. In a recent research, MRI was used to evaluate the relative contribution of the skin, subcutaneous tissue and muscles in the formation of the nasolabial fold while smiling and at rest. It was found that there is a thickening of the inferior region of the malar fat and an expansion of the skin around the same area without changes in the levator muscles of the lip (24). These findings would be related to the fact that during smiling, there is a shortening of the levator labial commissure that produces pressure over the malar fat and the skin inferior to the cheek. Over time, this produces a redistribution of fat and flaccid skin. This explains why when the malar fat is lifted, the nasolabial fold improves dramatically (25). That is why we prefer to apply several different vectors of traction when treating the SMAS, starting at the malar area. We do not consider necessary to undermine it because the malar fat plication makes it slide above the SMAS without any restriction in the supra zygomatic direction. It is extremely important to determine this vector in the pre op period.

The platysma treatment is performed by traction of its lateral border and fixing it to the lateral border of the sternocleidomastoid muscle in the retroauricular area. We prefer not to perform extensive undermining because we believe that the tunneling of the liposuction is enough to provide good traction. The use of 1210-nm wavelength laser has allowed us to perform smaller areas of dissection advancing only 3cm from the ear lobule. Laser treatment also favors skin retraction due to the stimulation of collagen production. (18,26–28)

We believe that besides the surgical technique used, the surgeon's experience and artistic sensibility has a lot of influence on the results obtained. If the techniques provided similar

results, we should prioritize on patient's security by being less invasive and therefore reducing complications. By performing less invasive surgeries we also provide shorter recovery periods.

Conclusion

The technique described provides good and long lasting aesthetic results with shorter scars, smaller areas of dissection (without temporal and posauricular flaps) and a shorter recovery period. It is important to mention that it has to be associated with the Lateral Brow Lift technique (17) which allows treatment of the periorbital and temporal areas. We also recommend the use of assisted Liposuction with (intra dermal) 1210-nm laser in the cervical area that prodeces skin retraction obtaining a smoother cervical and mandibular contour. The ideal patients for this technique are younger ones (between 45-55 years old) and secondary cases where less skin needs to be excised. In patients with severe skin flaccidity, the traditional technique with temporal flap should be used. The use of fat grafting is an excellent option for the finishing details in terms of volume reposition and facial grooves.

References

1. Waterhouse N, Vesely M, Bulstrode NW. Modified lateral SMASectomy. *Plastic and reconstructive surgery*. 2007;119(3):1021–6.
2. Mentz III HA, Patronella CK. Facelift: measurement of superficial muscular aponeurotic system advancement with and without zygomaticus major muscle release. *Aesthetic plastic surgery*. 2005;29(5):353–62.
3. Stocchero IN. Shortscar face-lift with the RoundBlock SMAS treatment: a younger face for all. *Aesthetic plastic surgery*. 2007;31(3):275–8.

4. Passot R. La chirurgie esthetique des rides du visage. *Presse Med.* 1919;27(258).
5. MITZ V, PEYRONIE M. The superficial musculo-aponeurotic system (SMAS) in the parotid and cheek area. *Plastic and reconstructive surgery.* 1976;58(1):80–8.
6. Mendelson BC. Surgery of the superficial musculoaponeurotic system: Principles of release, vectors, and fixation. *Plastic and reconstructive surgery.* 2001;107(6):1545–52.
7. Stuzin JM, Baker TJ, Gordon HL. The relationship of the superficial and deep facial fascias: Relevance to rhytidectomy and aging. *Plastic and reconstructive surgery.* 1992;89(3):441–9.
8. Teimourian B, Delia S, Wahrman A. The multiplane face lift. *Plastic and reconstructive surgery.* 1994;93(1):78–85.
9. BAKER TJ, GORDON HL, Baker TJ. Complications of rhytidectomy. *Plastic and reconstructive surgery.* 1967;40(1):31–9.
10. Matarasso A, Elkwood A, Rankin M, Elkowitz M. National plastic surgery survey: face lift techniques and complications. *Plastic and reconstructive surgery.* 2000;106(5):1185–95.
11. Saylan Z. The S-lift: Less is more. *Aesthetic Surgery Journal.* 1999;19(5):406–9.
12. Baker DC. Minimal incision rhytidectomy (short scar face lift) with lateral SMASectomy: Evolution and application. *Aesthetic Surgery Journal.* 2001;21(1):14–26.
13. Noone RB. Suture suspension malarplasty with SMAS plication and modified SMASectomy: a simplified approach to midface lifting. *Plastic and reconstructive surgery.* 2006;117(3):792–803.

14. Hamra ST. Composite rhytidectomy. *Plastic and reconstructive surgery*. 1992;90(1):1–13.
15. Pitanguy I, Radwanski HN, De Amorim NFG. Treatment of the aging face using the “round-lifting” technique. *Aesthetic Surgery Journal*. 1999;19(3):216–22.
16. Pitanguy I, Machado BHB. Facial Rejuvenation Surgery A Retrospective Study of 8788 Cases. *Aesthetic Surgery Journal*. 2012;32(4):393–412.
17. Centurión P, Romero C. Lateral Brow Lift: A Surgical Proposal. *Aesthetic plastic surgery*. 2010;34(6):745–57.
18. Centurion P, Noriega A. Fat preserving by laser 1210-nm. *Journal of Cosmetic and Laser Therapy*. 2013;15(1):2–12.
19. Coleman SR, Grover R. The anatomy of the aging face: volume loss and changes in 3-dimensional topography. *Aesthetic surgery journal*. 2006;26(1 suppl):S4–S9.
20. Tonnard P, Verpaele A, Monstrey S, Van Landuyt K, Blondeel P, Hamdi M, et al. Minimal access cranial suspension lift: a modified S-lift. *Plastic and reconstructive surgery*. 2002;109(6):2074–86.
21. Verpaele A, Tonnard P. Lower third of the face: indications and limitations of the minimal access cranial suspension lift. *Clinics in plastic surgery*. 2008;35(4):645–59.
22. Stuzin JM. Restoring Facial Shape in Face Lifting: The Role of Skeletal Support in Facial Analysis and Midface Soft-Tissue Repositioning (Baker Gordon Symposium Cosmetic Series). *Plastic and reconstructive surgery*. 2007;119(1):362–76.

23. Pitanguy I, Pamplona DC, Giuntini ME, Salgado F, Radwanski HN. Computational simulation of rhytidectomy by the “round-lifting” technique. *Rev Bras Cir.* 1995;85:213–8.
24. Gosain AK, Amarante MTJ, Hyde JS, Yousif NJ. A dynamic analysis of changes in the nasolabial fold using magnetic resonance imaging: Implications for facial rejuvenation and facial animation surgery. *Plastic and reconstructive surgery.* 1996;98(4):622–36.
25. Owsley JQ, Roberts CL. Some anatomical observations on midface aging and long-term results of surgical treatment. *Plastic and reconstructive surgery.* 2008;121(1):258–68.
26. Goldman A. Submental Nd: Yag laser-assisted liposuction. *Lasers in surgery and medicine.* 2006;38(3):181–4.
27. Badin A, Moraes L, Gondek L, Chiaratti M, Canta L. Laser lipolysis: flaccidity under control. *Aesthetic plastic surgery.* 2002;26(5):335–9.
28. Centurión P, Cuba JL, Noriega A. Liposucción con diodo láser 980-nm (LSDL 980-nm): optimización de protocolo seguro en cirugía de contorno corporal. *Cirugía Plástica Ibero-Latinoamericana.* 2011;37(4):355–64.
29. Alpert BS, Baker DC, Hamra ST, Owsley JQ, Ramirez O. Identical twin face lifts with differing techniques: A 10-year follow-up. *Plastic and reconstructive surgery.* 2009;123(3):1025–33.

Figures Caption

Fig 1. The 6 vectors of traction drawn over the skin in the pre op period

Fig 2. Red shaded area shows the area of dissection

- Fig 3.** Comparison of previous longer incisions (left) vs new shorter incisions proposed in this article (right.) Arrows show the 3 incisions: Temporal, pre and pos auricular
- Fig 4.** Marking the new point on the flap for the earlobe position
- Fig 5.** Fixation points A, B and accessory B2
- Fig 6.** Point B half way up the auricular concha
- Fig 7.** Point B2 an extra subdermal absorbable 4/0 stitch is placed between the ear lobule and point B
- Fig 8.** Dog ear forming at the superior part of the pos auricular incision.
- Fig 9.** V shaped excision of dog's ear.
- Fig 10.** 52 year old patient (a) Pre op frontal view (b) Pre op oblique view (c) Six months pos op frontal view (d) Six months pos op oblique view
- Fig 11.** 50 year old patient (a) Pre op frontal view (b) Pre op oblique view (c) Three months pos op frontal view (d) Three months pos op oblique view