



# Rhytidectomy sector time - incision intracapilar marginal and drift of the orbicularis blepharoplasty "economic"

*Ritidoplastia setorial temporal - incisão marginal intracapilar tração do musculo orbicular e blefaroplastia econômica "*

Antonio Roberto Bozola<sup>1</sup>  
Ruy Vieira<sup>2</sup>

## ABSTRACT

**Summary:** Introduction The authors refer to developments in the treatment of facial aging. **Objective:** Through an incision marginal temporal intracapillary reduce sagging eyelids and raise the tail of the eyebrow, making economic blepharoplasty. **Method:** We propose performing rhytidectomy segment temporal incision intra capillary marginal curve, facilitating compensation skin, within 0.5 cm of the scalp, it desepidermizando 2 mm. Removing fat conclude the edge of the flap and performing suture tricofítica and camouflaging the best scar, which becomes pre capillary by growth of hair along it. Detachment in the subcutaneous plane to the edge of the lateral half of the orbicularis, traction suture and lateral-superior range with separate points of it. Other procedures for the remainder of the face and neck were performed when necessary. The lateral traction reduces sagging eyelid skin and its excesses, making blepharoplasty small economical resections with skin, and removal of bags for minimal dilatation individualized orbicularis muscle at the site of projection of the same. **Results:** We obtained good results by reducing the stigma of aging orbital region. It is a simple procedure of low morbidity, leaving scar marginal temporal good quality for small skin traction and easily camuflável by the hair growing along her downward covering it. 485 cases were operated from 1997 to 2012. **Conclusion:** The method is easy to perform, low morbidity, scarring of good quality even in young people, reducing needs detachments of the eyelids.

**Keywords:** Rhytidectomy. Blepharoplasty. Eyelids/Anatomy & Surgery.

## RESUMO

**Introdução:** Os autores referem à evolução no tratamento do envelhecimento facial. **Objetivo:** Por meio de incisão marginal intracapilar temporal reduzir a flacidez palpebral e elevar a cauda do supercílio, tornar a blefaroplastia econômica. **Método:** Propõem realizar a ritidoplastia do segmento temporal com incisão intracapilar marginal curva, facilitando as compensações de pele, 0,5 cm dentro do couro cabeludo, desepidermizando 2 mm dele. Concluem o procedimento, desengordurando o bordo

Work performed at the Faculty of  
Medicine of São José do Rio Preto.  
São José do Rio Preto, SP, Brazil.

Article received: 30/08/2013  
Article accepted: 30/10/2013

DOI: 10.5935/2177-1235.2013RBCP0557

1. Professor of Plastic Surgery, Director of the Service of Plastic Surgery of the Hospital de Base de São José do Rio Preto-SP.  
2. Plastic Surgeon.

do retalho e realizando sutura tricofítica, camuflando melhor a cicatriz, que se torna pré-capilar, pelo crescimento de cabelos junto dela. Descolamento no plano subcutâneo até o bordo da metade lateral do músculo orbicular, tração e sutura latero-superior em leque com pontos separados do mesmo. Outros procedimentos no restante da face e pescoço quando necessários foram realizados. A tração lateral reduz a flacidez palpebral e seus excessos de pele, tornando a blefaroplastia econômica, com ressecções pequenas de pele, e remoção das bolsas por mínima divulsão individualizada do músculo orbicular, no local da projeção das mesmas. **Resultados:** Obtiveram bons resultados, reduzindo o estigma do envelhecimento da região orbitaria. Trata-se de um procedimento simples, de morbidade baixa, deixando cicatriz marginal temporal de boa qualidade, pela pequena tração da pele, é facilmente camuflável pelos cabelos que crescem junto dela, em direção inferior, cobrindo-a. Foram operados 485 casos de 1997 a 2012. **Conclusão:** O método é de fácil execução, baixa morbidade, cicatrizes de boa qualidade mesmo em jovens, reduzindo necessidades de descolamentos das pálpebras. **Descritores:** Ritidoplastia. Blefaroplastia. Pálpebras/Anatomia & Histologia.

## INTRODUCTION

Facial rejuvenation has evolved to treat skin flaccidity; correct deep structures by altering shapes, volumes, points, and lines to improve the aesthetics of the face; increase volume to modify forms by using alloplastic grafts and products; reduce muscle contracture; and treat the skin surface.

The lateral-temporal orbital region is affected by aging-related alterations. Its treatment employs techniques at both the superficial and deep levels.

Among superficial incisions, some authors including Connel suggest "broken" precapillary incisions<sup>1,2</sup>. Meanwhile, Aston suggests the release of the orbicularis oculi muscle, splitting it across with lateral traction<sup>3,4</sup>, whereas Viterbo suggests resecting this muscle accompanied by fat graft<sup>5</sup>. Furthermore, there are more ways to perform myectomy<sup>6,7</sup> and handlings<sup>8</sup>.

In 1997, after using several techniques with various detachment plans for 25 years, we propose a technical simplification for the temporal-eyelid area that includes the following: (a) a short curved incision in the marginal intracapillary area; (b) detachment at the subcutaneous level; (c) superior-lateral traction of the eyelids from the orbicularis oculi muscle without detachment; (d) eyebrow tail lift; and (e) minor and minimally aggressive interventions on the eyelid skin, orbicularis oculi muscle, and eyelid pouches.

## OBJECTIVE

The procedure outlined herein aims to reduce eyelid sagging and raise the tail of the eye-

brows using an intracapillary marginal temporal incision, thus lowering the cost of blepharoplasty and avoiding detachment.

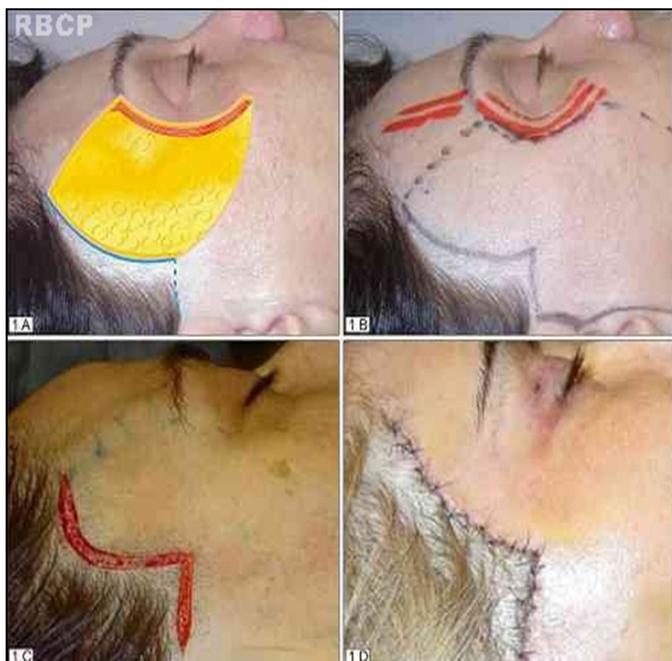
## METHODS

The temporal skin incision is marginal and intracapillary; it is made approximately 0.5 cm from the beginning of the scalp, specifically from the beginning of the area of thicker hair implantation, in a curve following the hair implantation shape, beginning superiorly just below the point where the hair grows downwards obliquely and ending at the base of the anterior sideburn (Figure 1A); when required, a 90° angle is drawn from that point until the top of the head following a concave line (Figure 1A, B). We used an incision with longer zig-zags than that proposed by Connel<sup>1</sup>. The anterior part of the incision undergoes trichotomy to facilitate the surgery.

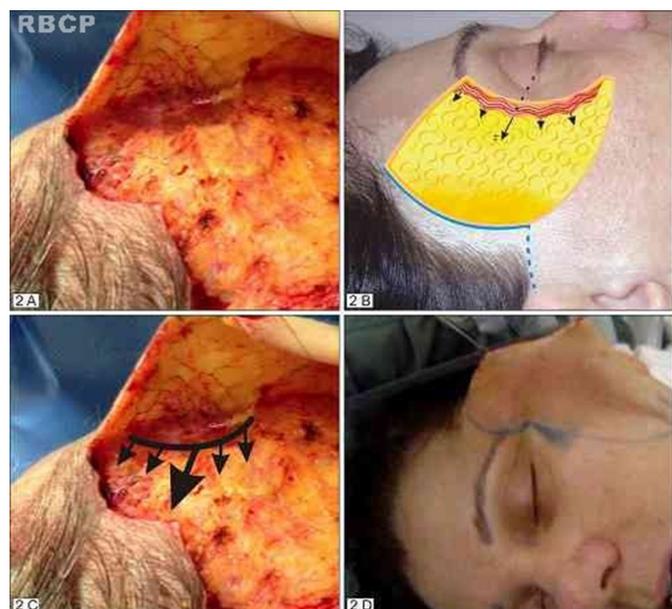
Along the entire extension of the incision, 2 mm of the scalp is de-epithelized, leaving the hair follicles intact (Figure 1C); alternatively, an anterior oblique incision is performed, thus preserving the hair follicles at the incision site and leaving them inside the final suture (Figure 1D).

The scalp incisions are made in the anterior de-epithelized region. The marked area undergoes detachment at the subcutaneous level in the upper region up to the tail of the eyebrow; visualization of the lower lateral edge of the frontal muscle and right below sometimes reveals the entire extension of the orbicularis oculi muscle with partial detachment of the lateral skin edge. Care must be taken to avoid deep detachment (Figure 2A). Next, traction and suturing are performed, generally with separate stitches and non-absorbable threads

(nylon 5-0) in the upper-lateral direction; the mean number of stitches is 5 (Figure 2B, C). The first stitch is introduced in the direction of the angle of the palpebral fissure (Figure 2D), and the others are made with divergent traction such that there is simultaneous redistribution of the muscle and loss of the age- and contraction-related fissures while maintaining the same upper-lateral direction. One or two stitches (mononylon 4-0) can be made in the lower lateral edge of the frontal muscle or subdermally in the eyebrow tail with upper-lateral traction.



**Figure 1** - A,B – Marking of the marginal intracapillary curve following the hairline, in some cases up to the top implantation of the head. C – De-epithelized marginal intracapillary area. D – Final suture at the hairline.



**Figure 2** - A – Muscle exposed and partially detached from the skin without deep detachment. B – Scheme of

muscle traction. C – Marking of the traction with arrows at the detachment site. D – Patient with inverted face showing the first traction stitch in the direction of the palpebral fissure.

The excess skin is removed after gentle traction as described above varying according to temporal-orbital flaccidity; the detached flap is readjusted to the initial curve incision simply by fixing it to the face with fine absorbable threads<sup>9-11</sup>. Two millimeters of the flap edge are then defatted and sutured over the de-epithelized region using trichophytic sutures (Figure 1D). In cases of anterior oblique incision, simple sutures are also made. Because the detached region experiences traction and is partially resected, the resultant scar becomes marginal.

Upper blepharoplasty removes only excess skin; less skin and only the medium pouch (when present) are always removed compared to classic blepharoplasties without lateral traction.

Meanwhile, lower blepharoplasty removes only the excess skin and relocates it to the lateral edge of the eyelid without detachment; the pouches intended for removal are individually exposed by rupturing the orbicularis oculi muscle at the points of its projections via the area of skin resection. The muscle is reclosed with simple mononylon 6-0 sutures (Figure 3A-D). To conclude the procedure, the skin is sutured, and the lower eyelid, zygomata, and temporal region are submitted to microporous sealing; this is left for 5 days to avoid inconvenient edemas, which can lead to transient ectropions. The eyelid and temporal stitches are removed 72 h and 8 days postoperatively, respectively.



**Figure 3** - A – Upper blepharoplasty and exposure of the inferior medium pouch. B – Removal of the pouch. C – Suture of the divulsed muscles. D – Replacement of the incisions prior to skin suture.

## RESULTS

A total of 485 patients were operated upon using the method described above during 1997–2012; some patients underwent concomitant surgeries for other parts of the face, especially the

mid-face and neck.

Figures 4–8 show the results obtained in patients who underwent the surgical procedure described above. The procedure was associated with low morbidity. Regarding aesthetics, the results were considerably homogeneous, and the patients were generally satisfied.



**Figure 4** -A – Preoperative frontal view. B – Postoperative frontal view. C – Preoperative oblique view. D – Postoperative oblique view



**Figure 5** - Frontal detachment. A – Preoperative frontal view. B – Postoperative frontal view. C – Preoperative oblique view. D – Postoperative oblique view.



**Figure 6** - Frontal detachment. A – Preoperative frontal view. B – Postoperative frontal view. C – Preoperative oblique view. D – Postoperative oblique view.

Postoperative edema was generally minor, and bruises were rare and minimal; if present, bruises were localized in between the spaces where the flap was fixated to the skin, and there was no need for re-intervention in any case. In the first 15 days postoperatively, the palpebral fissures were elongated (i.e., Orientalized) but progressively tended to lose that aspect even if they ultimately remained more elongated than before surgery as proposed by the correction. Hypercorrections can be performed according to patient request.

The removal of the epidermis in the temporal incision area with gentle traction followed by trichophytic suture allows the hair to grow from the scar region; this makes the scar almost imperceptible, resulting in a similar or even better aspect than the pre-auricular scars. The hair of the temporal region grows downward in an oblique manner, eventually covering the scars.



**Figure 7** - More subtle traction in a male patient and scar hidden by the hair. A – Preoperative frontal view. B – Postoperative frontal view. C – Preoperative profile view. D – Postoperative profile view .



**Figure 8** - A – Preoperative frontal view. B – Postoperative frontal view. C – Preoperative profile view. D – Postoperative profile view.

Two cases exhibited hypochromic scars, which were subsequently treated by tattooing the area using a skin-colored pigment.

In one case, small pustules formed in the region containing the absorbable stitches; therefore, the stitches were removed with a needle through their endings, and the pustules were drained. There were

ultimately no visible scars.

Two patients exhibited minimal bruises and did not require re-intervention. One patient exhibited frontal paresis possibly due to excessive electrocoagulation or clamping of the frontal branch of the facial nerve during suturing the orbicularis oculi muscle under traction. These postoperative complications spontaneously reverted after 2 months. However, the cause remains undetermined. When performing traction and fixation of the orbicularis oculi muscle, special attention should be paid to ensure that the most lateral stitch is not deep or in the path of the temporal branch of the facial nerve. The same care should be applied when performing electrocoagulation of the vessels in that particular region. The lateral traction of the eyebrows makes them longer and straighter, which is convenient when the aim of the procedure is facial rejuvenation.

## DISCUSSION

The aging of the lateral orbital region leads to the lowering of the eyebrows and lateral end of the palpebral fissure, formation of crow's feet (as if the skin moves into the lateral orbital region), rounding of the palpebral fissure due to tarsal flaccidity, possible occurrence of ectropion and epiphora, and scleral visibility. These events lead to an aged appearance of the eye region and a "sad" expression. Treatment involves detachment at the level of the superficial plane as described above, thus reversing the aged appearance and considerably reducing the folds forming the crow's feet.

A desepitelização e desengorduramento do bordo do retalho descolado podem ser substituídos por incisão oblíqua para frente, preservando alguns folículos pilosos que depois nascem sobre a cicatriz.

The de-epithelization and removal of the fat from the border of the detached flap can be replaced by an oblique forward incision, which preserves some of the hair follicles that will subsequently grow over the scar.

After suturing the orbicularis oculi muscle and lower area of the frontal muscle or subdermal portion of the eyebrow tail, the region is already under traction, even without completing all the skin sutures. Therefore, excessive traction is unnecessary, which results in a better scar that resembles the pre-auricular scars and is more easily covered by hair growing downwards.

The small detachments and gentle skin traction prevent necrosis and poor scarring. The sutures that fixate the flap to the site of detachment can

reduce postoperative edema, ecchymoses, and bruising; bandages can be removed 24 h postoperatively, except for the microporous bands on the lower eyelid and temporal.

When the entire face is submitted to intervention, cervico-facial procedures are performed on the basis of convenience, needs, and diagnosis of the patient as well as the surgeon's preference. During the first 15 days postoperatively, patients will generally exhibit elongated palpebral fissures and occasionally conjunctivitis, which will spontaneously resolve. The time required for a definitive result is 30 days; however, at only 10 days postoperatively, it is possible and common to return to normal social life.

It is possible to perform the temporal procedure without blepharoplasty or with only upper blepharoplasty. The lateral traction of the orbicularis oculi muscle as well as the traction of the eyebrow tail not only decreases the amount of skin to be removed from the eyelids, but also gently straightens the orbital septum, thus "erasing" the projection of small pouches that no longer need to be removed; also, it is convenient that the tarsal plates are compressed towards the eye globe. Thus, the method described herein functions as an indirect blepharoplasty.

The highest traction suture of the orbicularis oculi muscle as well as the lateral traction suture of the frontal muscle or eyebrow tail should be made with care such that the branch of the frontal facial nerve is not included; this may have occurred in one case in the present series. The procedure described herein raises and straightens the eyebrow tail; if there is the need to raise the medium region or make it more arch-like, other complementary techniques should be employed.

The excess skin on aged eyelids is always less than it appears; after lateral traction, it always becomes slender in the upper eyebrow and minimal in the lower eyelid. If there is frontal wrinkling and contraction of the corrugator muscles from the upper part of the temporal incision, subperiosteal detachment can occur, including the entire frontal and glabellar regions. Accordingly, upper-lateral traction can smooth the frontal and glabellar wrinkles; the results can last up to 1 year.

## CONCLUSION

Sectorial temporal orbital rhytidoplasty with intracapillary marginal temporal incision according to the procedure described herein is fast and safe, provides good results, and results in low morbidity. The procedure includes raising and straightening

the eyebrow tail, which considerably reduces the lateral orbital wrinkles and straightens the palpebral fissure; it also straightens the orbital septum, which reduces the projection of the pouches and compresses the tarsal plates towards the eye globe. This reduces the cost of blepharoplasty and avoids the need for skin detachment and myocutaneous flaps.

**Antonio Roberto Bozola**

**Av. Brigadeiro Faria Lima, 5416 - Vila São Pedro  
CEP: 15090-000 - São José do Rio Preto, SP, Brasil.**

## REFERENCES

1. Connell BF. Eyebrow, face, and neck lifts for males. *Clin Plast Surg.* 1978;5(1):15-28.
2. Connell BF, Marten TJ. Surgical correction of the crow's feet deformity. *Clin Plast Surg.* 1993;20(2):295-302.
3. Aston SJ. Orbicularis oculi muscle flaps: a technique to reduce crows feet and lateral canthal skin folds. *Plast Reconstr Surg.* 1980;65(2):206-16.
4. Aston SJ. Skin-muscle flap lower lid blepharoplasty: an easier dissection. *Aesthetic Plast Surg.* 1982;6(4):217-9.
5. Viterbo F. New treatment for crow's feet wrinkles by vertical myectomy of the lateral orbicularis oculi. *Plast Reconstr Surg.* 2003;112(1):275-9.
6. de Assis Montenegro Cido Carvalho F, Vieira da Silva V Jr, Moreira AA, Viana FO. Definitive treatment for crow's feet wrinkles by total myectomy of the lateral Orbicularis Oculi. *Aesthetic Plast Surg.* 2008;32(5):779-82.
7. Furnas DW. The orbicularis oculi muscle. Management in blepharoplasty. *Clin Plast Surg.* 1981;8(4):687-715.
8. Cabbabe SW, Andrades P, Vasconez LO. Lateral orbicularis oculi muscle plasty in conjunction with face lifting for periorbital rejuvenation. *Plast Reconstr Surg.* 2009;124(4):1285-93.
9. Baroudi R, Ferreira CA. Seroma: how to avoid it and how to treat it. *Aesthet Surg J.* 1998;18(6):439-41.
10. Pollock H, Pollock TA. Management of face lifts with progressive tension sutures. *Aesthet Surg J.* 2003;23(1):28-33.
11. Pollock H, Pollock TA. Subcutaneous brow lift with precise suture fixation and advancement. *Aesthet Surg J.* 2007;27(4):388-95.