

## How I do?

### Authors:

Ricardo Vieira<sup>1,2</sup>  
André Pinho<sup>1</sup>  
Ana Brinca<sup>1</sup>

<sup>1</sup> Centro Hospitalar e Universitário de Coimbra - Coimbra, Portugal.

<sup>2</sup> Faculdade de Medicina, Universidade de Coimbra - Coimbra, Portugal.

### Correspondence:

Ricardo Vieira  
E-mail: ricardo.jdc.vieira@gmail.com

Received on: 20/11/2018  
Approved on: 15/12/2018

This study was performed at the Centro Hospitalar e Universitário de Coimbra - Coimbra, Portugal.

Financial support: None.  
Conflict of interests: None.



# Repair of the lower eyelid with primary closure with lateral canthopexy and elevation of the suborbicularis oculi fascia: a simple technique to avoid post-operative ectropion

*Reparo da pálpebra inferior por fechamento direto com cantopexia lateral e elevação da fásia suborbicular dos olhos: uma técnica simples para evitar o ectrópio pós-operatório*

DOI: <http://www.dx.doi.org/10.5935/scd1984-8773.201810403>

## ABSTRACT

Cutaneous defects of the lower eyelid frequently require reconstructions with grafts or flaps to avoid ectropion. Removal of a basal cell carcinoma from the lower eyelid of a 39-year-old patient resulted in an exclusively cutaneous defect, with transversal and vertical diameters of 32 and 13mm, respectively. Despite the large size of the defect, the elevation of the suborbicularis oculi fascia to the periosteum of the lateral orbital border made primary closure possible. The position of the lower was also reinforced with a lateral canthopexy, with excellent aesthetic and functional results.

**Keywords:** Carcinoma, basal cell; Ectropion; Eyelids; Orbit; Reconstruction

## RESUMO

Os defeitos cutâneos da pálpebra inferior frequentemente requerem reconstruções com enxertos ou retalhos para evitar-se o ectrópio. A retirada de um carcinoma basocelular da pálpebra inferior de uma paciente de 39 anos resultou em um defeito exclusivamente cutâneo, com diâmetros transversal e vertical de 32 e 13mm, respectivamente. Apesar da grande dimensão do defeito, a elevação da fásia suborbicular dos olhos para o periósteo da borda orbital lateral permitiu o fechamento primário. A posição da pálpebra inferior também foi reforçada com uma cantopexia lateral, com excelentes resultados estético e funcional.

**Palavras-Chave:** Carcinoma basocelular; Ectrópio; Pálpebras; Órbita; Reconstrução

## INTRODUCTION

Defects involving the lower eyelid's anterior lamella are relatively common in dermatologic surgery, with most of them resulting from the excision of basal cell carcinomas, xanthelasma, and several other neoplasms or benign conditions. The repair of these defects is challenging due to the relatively small amount of tissue in the region, and often require the use of skin flaps or grafts aimed at preventing eyelid retraction or vertical tension vectors, which cause postoperative ectropion with relevant aesthetic and functional impacts.<sup>1</sup>

Align with that, primary closure is usually limited to some small defects. Larger defects should be repaired with full-thickness skin grafts (usually taken from the upper eyelid) or with various types of flaps (Tripiet flap or cheek skin advancement or rotation flaps).<sup>1,2</sup>

## METHODS

A 39-year-old female patient underwent extensive excision of a basal cell carcinoma in the lower eyelid (Figure 1). The resulting defect involved the lower eyelid's anterior lamella, at a distance of 4 mm from the eyelid's margin, measuring 32 mm and 13 mm in its transverse and vertical diameters, respectively (Figure 2). The snap-back test did not reveal alterations, with the eyelid immediately returning to the normal position. Another test was performed by taking the suborbicularis oculi fascial tissue through the lower edge of the surgical wound using a forceps, so as to lift it towards the lateral orbital rim. This action allowed complete juxtaposition of the defect's edges.

In this manner, the repair was planned in three stages:

- Elevation of the suborbicular fascia of the eyes, attaching the pre-zygomatic area's deep fascia to the lateral orbital border's periosteum, using a non-absorbable 4/0 polypropylene suture with a double needle. The first needle was used to approach a generous portion of the fascia underlying the subcutaneous fat, on the lower margin of the defect. The second needle was used to reach the lateral orbital border's periosteum. After having been tied, this suture elevated the inferior margin of the defect, allowing an almost complete approximation (Figure 3).

- Performance of a lateral canthopexy with the same double-needle polypropylene suture, attaching the lateral end of the inferior tarsal plate to the periosteum of the inner side of the lateral orbital border. This step was carried out observing the need to preserve the position of the lateral canthus leveled with that of the contralateral side.

- Primary closure of the skin with a continuous 5/0 polypropylene suture, without knots, fixed on each of the sides



FIGURE 1: Basal cell carcinoma in the lower eyelid.

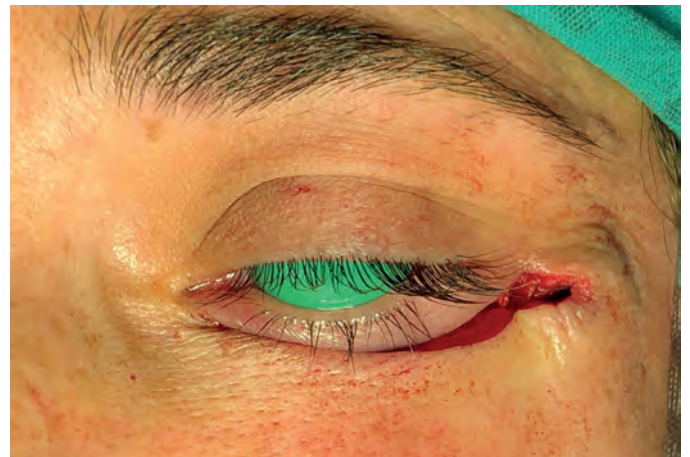


FIGURE 3: Approximation of the wound after elevation of the suborbicular fascia of the eyes



FIGURE 2: Defect after the removal of a basal cell carcinoma involving a large extension of the lower eyelid's anterior lamella

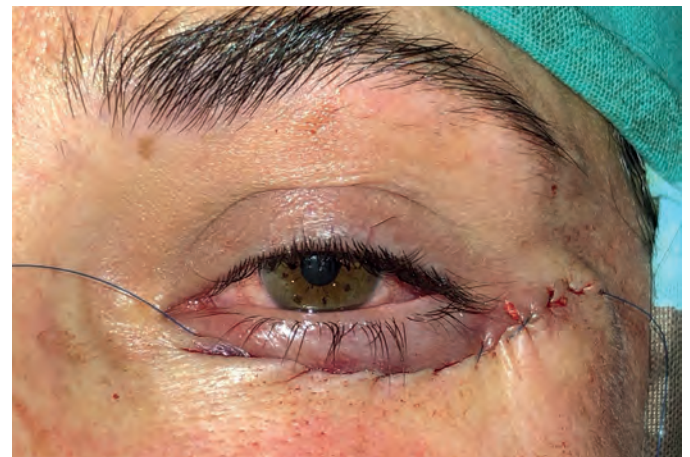
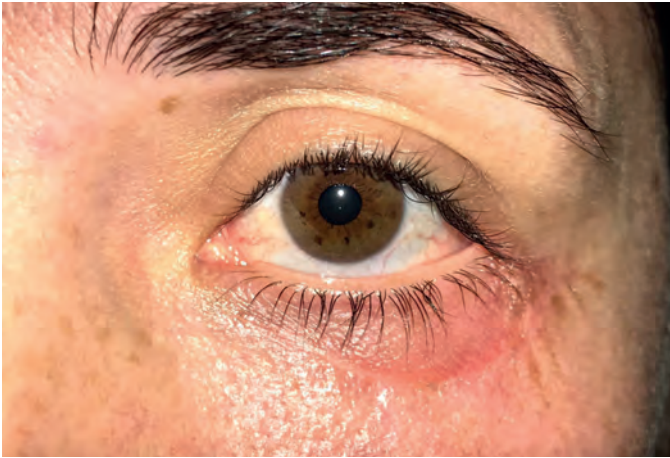


FIGURE 4: Immediate postoperative outcome



**FIGURE 5:** Final outcome one month after the surgery

by reinforced with 6 mm wide adhesive strips (Steri-Strip, 3M) (Figure 4).

The continuous suture was removed on the sixth day.

## RESULTS

The final outcome after one month was deemed excellent by both physicians and patient (Figure 5). No ectropion or functional compromise could be observed in the lower eyelid during the follow-up.

## DISCUSSION

Ectropion with aesthetic and functional compromise is a possible complication of surgical procedures in the lower eyelid.<sup>3</sup>

## REFERENCES

- Hayano SM, Whipple KM, Korn BS, Kikkawa DO. Principles of periocular reconstruction following excision of cutaneous malignancy. *J Skin Cancer* 2012;2012:438502.
- Subramanian N. Reconstructions of eyelid defects. *Indian J Plast Surg*. 2011;44(1):5-13.
- Baek JS, Kim KH, Lee JH, Choi HS. Ophthalmologic complications associated with oculofacial plastic and esthetic surgeries. *J Craniofac Surg*. 2018;29(5):1208-11.
- Oestreicher J, Mehta S. Complications of blepharoplasty: prevention and management. *Plast Surg Int*. 2012;2012:252368.
- Khan M, Aziz K, Javed A, Gorman M, Othman D, Riaz M. Modified lower eyelid blepharoplasty improves aesthetic outcomes in patients with hypoplastic malar prominences. *Plast Aesthet Res*. 2017;4:228-35.
- Amodeo CA, Casasco A, Cornaglia AI, Kang R, Keller GS. The suborbicular oculi fat (SOOF) and the fascial planes: has everything already been explained? *JAMA Facial Plast Surg*. 2014;16(1):36-41.

## DECLARATION OF PARTICIPATION:

**Ricardo Vieira** | ORCID 0000-0002-5914-9171

Drafting of the manuscript, surgeon responsible for the described surgical procedure.

**André Pinho** | ORCID 0000-0001-6433-311X

Review of the manuscript, member of the surgical team.

**Ana Brinca** | ORCID 0000-0002-7539-9912

Review of the manuscript, member of the surgical team.

Even in aesthetic procedures – as well as in lower eyelid blepharoplasty – ectropion is probably the most serious long-lasting complication.<sup>4</sup> It can result from excessive skin removal, however might also occur in cases where the immediate outcome appears to be adequate, especially in patients with decreased eyelid elasticity. In these cases, a modified technique combining canthopexy and the elevation of the suborbicular fascia is capable of preventing this complication.<sup>5</sup> This modified technique can be applied to the reconstruction of eyelid defects, allowing an effective approximation of the edges, elevating the pre zygomatic soft tissues,<sup>6</sup> completely removing the tension from the skin by exerting tension on the deep tissues. The suspension of the suborbicular soft tissue towards a fixed structure (lateral orbital rim) avoids the creation of vertical tension vectors over the lower eyelid that would ultimately result in ectropion. In addition, since the lateral canthal ligament is reinforced by a lateral canthopexy, the proper positioning of the lower eyelid is easily obtained.

## CONCLUSION

The elevation of the suborbicular fascia associated with lateral canthopexy may allow the primary closure of relatively large defects of the anterior lower eyelid lamella for which, in normal conditions, full thickness skin grafts or local flaps would be required. This procedure appears to be a relatively simple alternative to flaps and grafts, especially in defects affecting the central or lateral thirds of the lower eyelid. Meticulous analysis should be undertaken when considering this method in patients with diminished elasticity of the lower eyelid (with abnormal snapback test), as well as in defects that are located very close to the palpebral margin or in those located in the medial part of the lower eyelid. ●