



Upper eyelid transposition flap for the reconstruction of a lower eyelid defect: a case report

Retalho de transposição da pálpebra superior para reconstrução de defeito na pálpebra inferior: relato de caso

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ABSTRACT

Squamous cell carcinoma (SCC) is the second most common skin cancer. When it is located in the lower eyelid region, the reconstruction of the resulting defect can be challenging for the dermatological surgeon, due to the local cosmetic and functional peculiarity. We report the use of an upper eyelid transposition flap for lower eyelid reconstruction with satisfactory results, both in terms of aesthetics and the resulting functionality

Keywords: Carcinoma; squamous cell; Surgical flaps; Eyelids; Eyelid neoplasms

RESUMO

O carcinoma espinocelular (CEC) é o segundo câncer de pele mais comum. Quando localizado na região palpebral inferior, a reconstrução do defeito resultante pode se tornar um desafio para o cirurgião dermatológico devido à peculiaridade cosmética e funcional local. Relatamos a utilização de retalho de transposição da pálpebra superior para reconstrução palpebral inferior com resultado satisfatório, tanto pela estética, quanto pela funcionalidade resultante.

Palavras

Palavras-chave: Carcinoma de células escamosas; Retalhos cirúrgicos; Pálpebras; Neoplasias palpebrais

Case Report

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INTRODUCTION

Squamous cell carcinoma (SCC) is the second most common type of skin cancer.¹ Depending on its size and location, the complete excision of this type of tumor requires using a flap to close the resulting defect.^{1,2} Reconstructions in the lower eyelid region become more challenging for the dermatological surgeon due to local characteristics such as aesthetic and functional aspects.³

The transposition flap (TF) is one of the possibilities for closing larger skin lesions. It uses part of the adjacent skin to fill a nearby defect with little skin laxity. The redirection of tension vectors must be carefully analyzed in advance not to generate local anatomical deformities.⁴

We report the case of a patient who received the modified RT technique for the reconstruction of a lower eyelid defect, using a triangular and longer flap segment instead of a rectangular, short, and slightly rounded at the distal end. This case report aims to exemplify and demonstrate a technique option to correct defects in the lower-lateral eyelid, with easy execution, in a single surgical procedure, and with satisfactory aesthetic results.

METHODS

We treated a patient with SCC in the lower-lateral eyelid region on the right. A 52-year-old man, white, presented a 16 mm ulcerated plaque in the right infraocular region/outer corner (infra-lateral eyelid on the right). The histopathological examination confirmed SCC. We performed the excision of the lesion with safety margins of 4 mm. The resulting defect was 24 mm in the longest axis, and RT of the upper eyelid region was chosen (Figures 1, 2, and 3).

Technique Description:

- Patient in horizontal supine position;
- Marking with methylene blue or surgical pen of the lesion with a 4 mm margin and flap incision sites. The marking of the flap starts at the outer corner of the orbital region, 2 mm below the eyebrow tail, extending medially for 30 mm (near the inner corner) and ending at 4 mm below the eyebrow, returning with the incision marking until meeting the upper portion of the defect. The distance from the inferior incision of the flap to the supraciliary edge must be kept above 8 mm. (Figure 1A, 2A, and 2B)
- Antisepsis with topical 10% polyvinyl-iodine;
- Placement of surgical drapes:

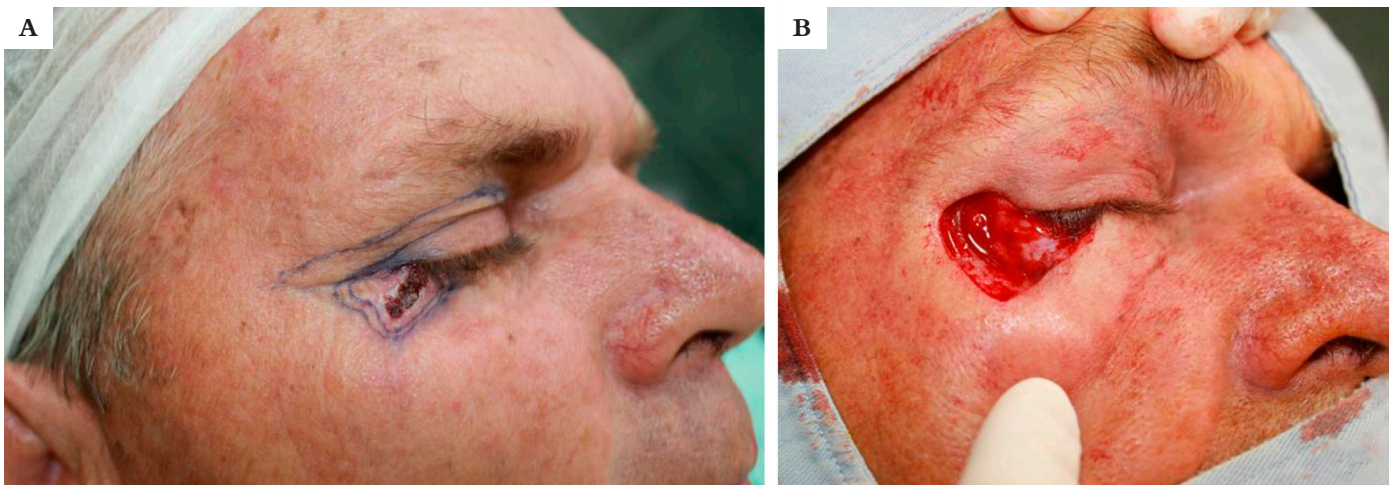


FIGURE 1: A - SCC margin and flap marking; B - Defect



FIGURE 2: A - Flap incision; B - Flap detachment; C - Flap movement

- Infiltrative anesthesia with 2% lidocaine with vasoconstrictor;
- Incision with blade 15 of the lesion and bloc excision of the level of subcutaneous depth;
- Hemostasis;
- Incision of the flap, starting at the outer corner of the orbital region, on the upper eyelid, below the eyebrow tail, extending medially to the inner corner and returning with an incision to meet the upper portion of the defect (Figure 2A);
- Detachment of the flap of the level of subcutaneous depth (Figure 2B);
- Transposition movement of the flap from the upper eyelid portion to the defect in the lower eyelid region (Figure 2C);
- Removal of the distal excess of the flap. Fixation of the RT over the defect and closure of the donor area with sutures with mononylon 6.0, single stitches. (Figures 3A and 3B);
- Local cleaning with saline solution;
- Occlusive dressing.

RESULTS

The patient evolved uneventfully in the first postoperative days (Figure 3C). There was good healing and accommodation, with

satisfactory aesthetic results in the late postoperative period. (Figures 4A and 4B)

DISCUSSION

The upper and lower eyelids are complex structures with specific functions, such as protecting the eyeball from trauma, shielding from excessive light and executing movements towards the tear drainage system, also determining the eye's beauty and expression. Therefore, reconstructions at these sites represent a major challenge for dermatological surgeons, especially when primary closure is not possible.³

Flaps can be used in lower eyelid reconstruction. The transposition flap (TF) has a linear configuration, unlike rotation flaps, which have a curvilinear configuration. A rectangular, rhomboidal, or triangular segment of skin and subcutaneous tissue is used, projecting laterally on an axis until reaching the defect that is next to or near it.⁴

William Horner first described TF from the upper to the lower eyelid in 1837. Then Denonvilliers, in 1854, used the technique to correct cicatricial ectropion of the lower eyelid. But it was Denonvilliers' student, Cazelles, who established the method by publishing several drawings in his doctoral thesis

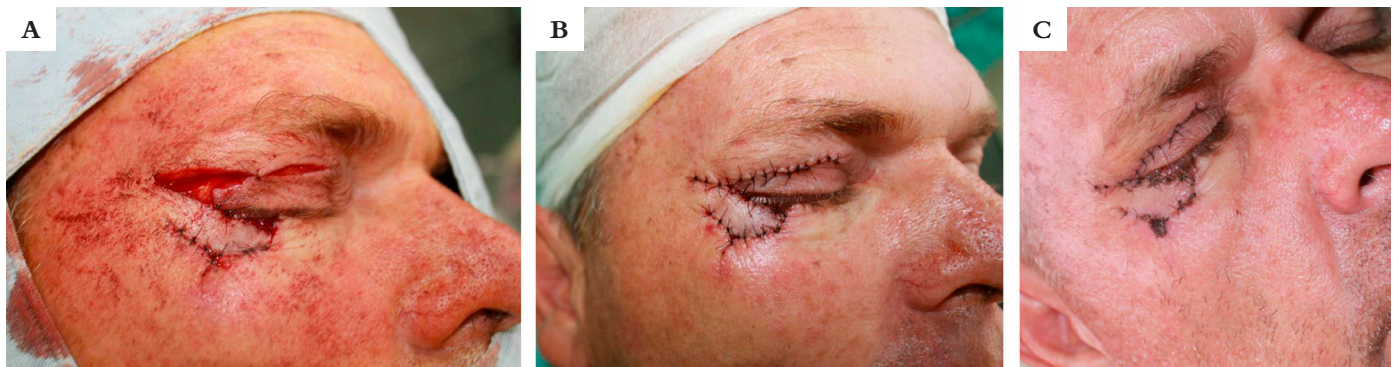


FIGURE 3: A - Flap placement; B - Sutured flap; C - Five days after surgery

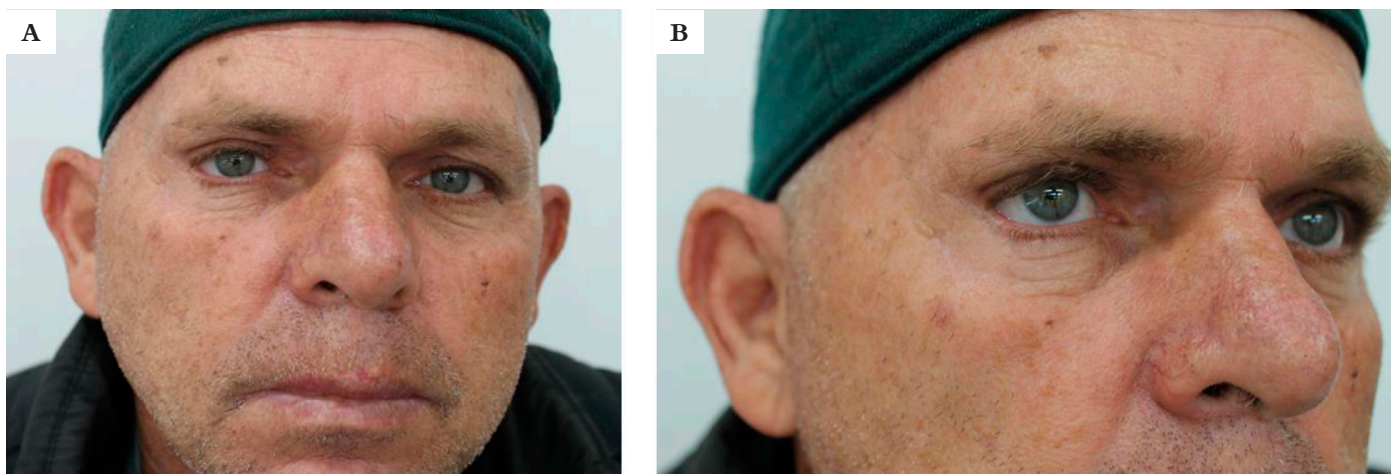


FIGURE 4: A - Six months postoperatively, frontal view; B - Six months postoperatively, lateral view

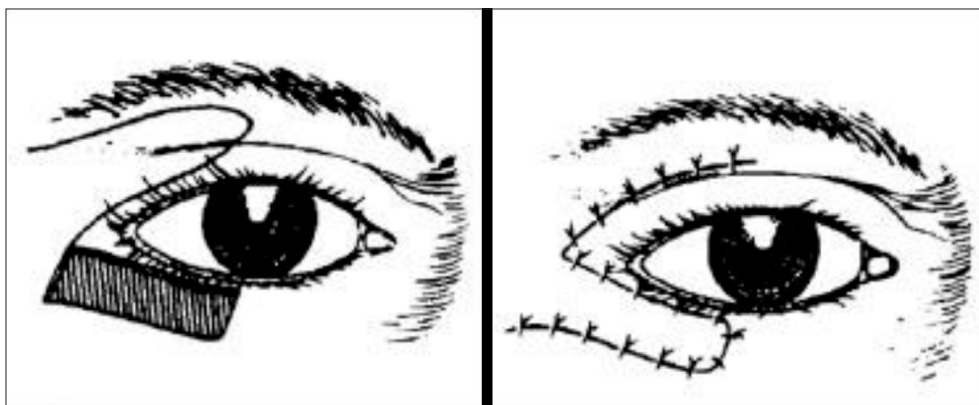


FIGURE 5: Original drawing by Horner/Cazelles

in 1860 (Figure 5). Currently, some authors erroneously call it Fricke's transposition since this technique uses a monopedicle skin flap from the temporal or frontal region and not from the upper eyelid, as in the case in question.⁵

The present authors suggest that the flap starts at the outer corner of the orbital region, 2 mm below the eyebrow tail, as Horner/Cazelles originally proposed (Figure 5). However, they indicate that it extends a little further, near the inner corner, at 4 mm below the eyebrow, then returning to meet the upper portion of the defect. We advise keeping a >8 mm distance from the inferior incision of the flap to the supraciliary edge to avoid lagophthalmos (Figure 2A). The resulting triangular-shaped segment facilitates the primary closure of the donor area (Figures 1A, 2A, and 2B).

With the modified Horner/Cazelles technique (Figures 2 and 5), the longer triangular segment and lower flap incision,

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with a distance greater than 8 mm from the supraciliary edge, will hide the upper eyelid scar will in the upper eyelid orbital sulcus, as the suture sites and final healing show (Figures 3C and 4A). With the stress lines distribution, the resulting force will be lateral to the defect and not caudal, preventing ectropion (Figures 4A and 4B).

Despite the knowledge and use of TF for lower eyelid defects by many dermatological surgeons, there are still few cases reported in the literature. The authors consider this procedure a good surgical option, as in our case.

CONCLUSION

TF may be a good option to resolve defects in the lower-lateral eyelid regions, considering that it solves the problem in a single surgical procedure with good cosmetics and functionality. ●

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Approval of the final version of the manuscript; study design and planning; preparation and writing of the manuscript; data collection, analysis, and interpretation; active participation in research orientation; intellectual participation in propaedeutic and/or therapeutic conduct of studied cases; critical literature review; critical revision of the manuscript.

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