

Surgical Correction of a Cicatricial Lagophthalmos

The eyelids are critical in protecting the cornea from injury and in maintaining tear film integrity. Lagophthalmos is the incomplete or abnormal closure of the eyelids and can lead to corneal exposure, excessive evaporation of the tear film, and subsequent exposure keratopathy. This can progress to corneal abrasion, infection, and, in extreme cases, ocular perforation and loss of the eye.^[1] Therefore, early recognition and effective treatment of this condition is paramount.

The most frequent cause of lagophthalmos is facial nerve paralysis, which leads to paralytic lagophthalmos. On the contrary, a cicatricial lagophthalmos can arise after surgery or trauma resulting in excessive scarring and retraction of the eyelid. In such cases, release of scar tissue

and repositioning of the levator palpebrae superioris are critical steps for a successful treatment.^[2]

An 83-year-old man presented with cicatricial lagophthalmos on the left upper eyelid, leading to eye dryness and foreign body sensation. Three years earlier, he had been submitted to radical excision of a basal cell carcinoma of the lateral canthus of the left eye by Mohs surgery. During surgery, a full-thickness skin graft from the preauricular region was used to cover the defect, and a lateral canthoplasty was performed. However, a cicatricial lagophthalmos ensued nonetheless, leading to a corneal ulcer 7 months later.



Figure 1: Cicatricial lagophthalmos on the left upper eyelid



Figure 2: Incision through the superior eyelid crease. Scar tissue was released



Figure 3: Aponeurosis of the levator palpebrae superioris was identified



Figure 4: Aponeurosis of the levator palpebrae superioris was repositioned and sutured to the anterior surface of the superior tarsal plate

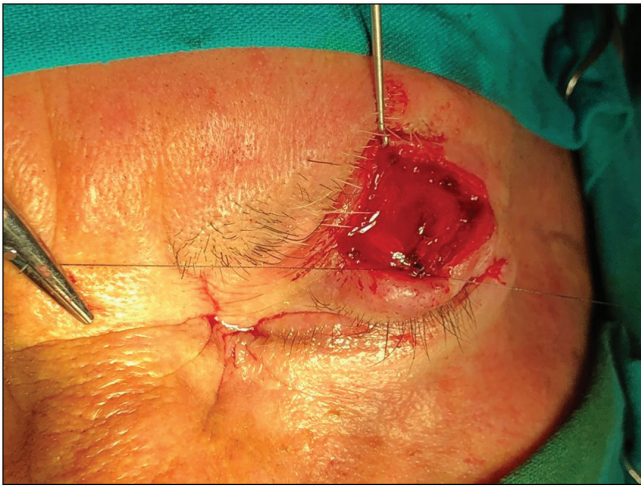


Figure 5: Aponeurosis of the levator palpebrae superioris in its new position

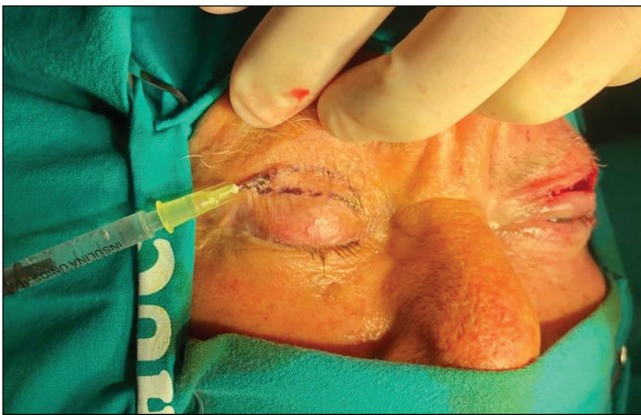


Figure 6: A skin graft was harvested from the right upper eyelid

On examination, scarring and retraction could be observed in the central and lateral segments of the left upper eyelid [Figure 1]. An incision was made through the superior eyelid crease. Scar tissue was released [Figure 2] and a lateral tarsorrhaphy was performed. The aponeurosis of the levator palpebrae superioris was identified [Figure 3], repositioned, and sutured to the anterior surface of the superior tarsal plate [Figures 4 and 5]. A skin graft was harvested from the right upper eyelid [Figure 6]. The secondary defect was easily closed primarily. The graft was then adapted and sutured to the defect on the left upper eyelid. Immediately after surgery, full eyelid closure was possible. An excellent functional and cosmetic outcome was noticeable after 1 week [Figure 7] and also after 6 months [Figures 8A and B], with complete resolution of subjective symptoms.

The management of cicatricial lagophthalmos involves both medical and surgical approaches. The aim of medical treatment is to improve tear film stability. Artificial tears without preservatives should be administered frequently. Ointments, moist chambers, physiotherapy, and overnight taping of the eyelid can also be beneficial.^[3]



Figure 7: One week after surgery, an excellent functional and cosmetic outcome was noticeable

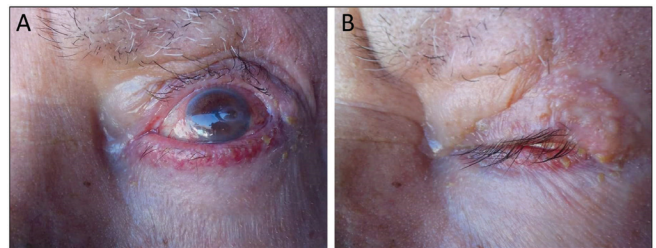


Figure 8: (A) Six months after surgery, an excellent functional and cosmetic outcome was noticeable (eyes open). (B) Six months after surgery, an excellent functional and cosmetic outcome was noticeable (eyes closed)

In severe or permanent cases, surgical treatment is typically required.^[4] The objective is to prevent exposure keratitis and reestablish eyelid function. The preferred procedure will depend on the location, severity, and etiology of lagophthalmos, as well as patient factors (including age, comorbidities, and expectations) and surgeon experience. Critical steps include (1) complete excision or release of the contracted scar tissue, (2) a method to prevent readhesions, and (3) reconstruction of the skin defect.^[1]

Several reconstruction techniques have been reported, including local flaps and skin grafts. The upper eyelid should be soft and flexible to allow natural and effortless blinking. If a severe contracture is present, local flaps can leave large unsightly scars and may not achieve adequate scar release.^[2] The technique described achieved favorable functional and cosmetic outcomes in this patient.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Not applicable.

Conflicts of interest

There are no conflicts of interest.

André Cerejeira, André Pinho¹, Ana Brinca¹, Ricardo Vieira¹

Serviço de Dermatologia e Venereologia, Centro Hospitalar Universitário de São João EPE, Porto, ¹Serviço de Dermatologia e Venereologia, Centro Hospitalar Universitário de Coimbra EPE, Coimbra, Portugal

Address for correspondence: Dr. André Cerejeira,
Department of Dermatology and Venereology, Centro Hospitalar São João,
Alameda Prof. Hernâni Monteiro, 4200-319 Porto, Portugal.
E-mail: cerejeira.andre@gmail.com

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