

CORRECTION OF ECTROPION AFTER LOWER BLEPHAROPLASTY

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Case Report

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Abstract. Cicatricial ectropion after lower blepharoplasty is a complication that compromises anatomical function and ocular protection, resulting in conjunctival exposure and irritation. This study aimed to report the clinical evolution and therapeutic approach of a patient who developed ectropion after lower blepharoplasty, analyzing the intraoperative and postoperative factors associated with the condition. The methodology consisted of a detailed evaluation of functional tests (Snap-back test and Distraction test), initial conservative treatment, and surgical approach when conservative measures failed. Given the persistence of eyelid laxity, surgical correction was indicated, adopting the tarsal strip technique for repositioning the lower eyelid. The results demonstrated that the condition evolved into a moderate ectropion, justifying surgical intervention, which provided satisfactory outcomes in terms of eyelid functionality and aesthetics. Thus, the findings of this study reinforce the importance of early action and a well-planned therapeutic management in the prevention and treatment of post-blepharoplasty complications. Furthermore, they highlight the relevance of the tarsal strip technique in restoring eyelid dynamics, suggesting that future research explore approaches that minimize the risks of complications and expand the criteria for functional evaluation of the lower eyelid.

Keywords — cicatricial ectropion; lower blepharoplasty; surgical correction; tarsal strip technique; functional evaluation.

1 Introduction

Eyelid ectropion is a condition characterized by the abnormal eversion of the lower eyelid margin, leading to chronic conjunctival exposure, ocular irritation, and impaired eyelid function [1]. This condition can have different causes, with cicatricial ectropion being one of the most significant, especially in aesthetic and reconstructive procedures such as lower blepharoplasty. Among its etiologies, cicatricial ectropion represents an important complication, frequently associated with excessive skin retraction, healing alterations, and failure to maintain adequate eyelid tension [2].

Lower blepharoplasty, widely performed for the correction of excess skin and eyelid laxity, can, in some cases, lead to functional alterations in the eyelid margin. Studies indicate that the risk of developing cicatricial ectropion is directly linked to factors such as the surgical technique adopted, suture tension, and individual characteristics of the patient's skin [3]. Furthermore, aspects such as genetic predisposition and the quality of cutaneous elastin influence the healing pattern, potentially impacting postoperative results [4].

Although initial conservative management can minimize adverse effects, cases that evolve to moderate or severe ectropion often require surgical intervention to restore the eyelid position. The diagnosis of cicatricial ectropion is performed through a detailed physical examination, including assessment of eyelid position, conjunctival exposure, and functional tests. Among these tests, the Snap-back test and Distraction test are fundamental for measuring eyelid laxity and guiding surgical conduct [5].

Recently, new therapeutic approaches have been explored in the management of ectropion, such as the use of cutaneous biostimulation, including platelet-rich plasma (PRP) and polydeoxyribonucleotide (PDRN), which aid in tissue regeneration and improve eyelid elasticity [6, 7].

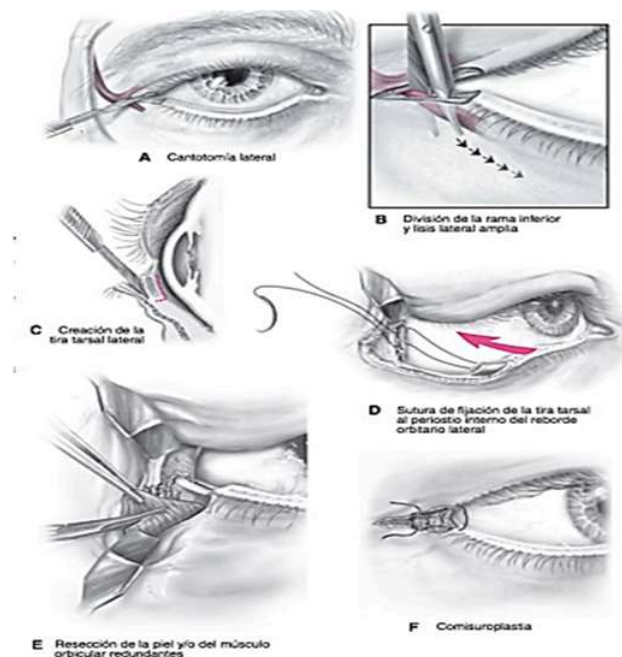
Among the surgical options for ectropion correction, the modified Fricke technique, which uses a rotational fasciocutaneous flap for eyelid repositioning, and the tarsal strip technique (Figure 1),

characterized by shortening the lower tarsus and repositioning the eyelid margin, providing lasting structural stability [8] stand out. In addition to these approaches, minimally invasive procedures, such as the application of dermal fillers and fractional CO₂ laser, have been investigated as complementary alternatives for aesthetic and functional optimization in the treatment of post-blepharoplasty ectropion [9, 10].

Recent studies also discuss the effectiveness of advanced eyelid regeneration techniques, including cellular therapies and biomaterials, which have shown promising results in restoring eyelid function and reducing cicatricial retraction [11, 12]. Furthermore, comparative research on different surgical methods indicates that the combination of structural and regenerative techniques can improve functional and aesthetic results, adapting better to the individual needs of each patient [13].

Finally, the literature reinforces that the success of cicatricial ectropion treatment depends on a multidisciplinary approach involving ophthalmic surgeons, dermatologists, and tissue healing specialists to ensure reproducible and safe results [14, 15]. Moreover, the study of functional evaluation of the lower eyelid has been highlighted as an essential element in choosing the surgical technique, as the preservation of skin elasticity and eyelid

Figure 1: Tarsal strip technique



Source: Spinelli [2].

ligament support directly influence clinical outcomes [16].

The analysis of these factors becomes essential to improve surgical protocols and reduce the incidence of postoperative complications [17].

The present study aims to describe the clinical case of a patient who developed lower eyelid ectropion after blepharoplasty, detailing its evolution, therapeutic approach, and surgical outcome. In addition to contributing to the understanding of the impact of this complication in clinical practice, this report reinforces the importance of specific surgical techniques in the correction of cicatricial ectropion and the preservation of eyelid functionality [8].

2 Case Report

This study adopts a qualitative approach, seeking to describe and analyze in depth the clinical case of eyelid ectropion after lower blepharoplasty. The choice of this methodology is justified by the need to understand the patient's clinical evolution, as well as the impacts of the surgical technique used in ectropion correction. Thus, the qualitative analysis allows a detailed interpretation of the clinical findings, providing a comprehensive view of the factors involved in eyelid recovery.

Data collection was conducted through direct clinical evaluation, following standardized protocols for diagnosis and surgical planning. Initially, the patient underwent a detailed physical examination, in which eyelid position, conjunctival exposure, and presence of excessive tearing were observed. To complement this evaluation, functional tests, including the Snap-back test and Distraction test, were applied, enabling the analysis

of eyelid laxity and the estimated recovery time.

Photographic records played a fundamental role in documenting the evolution of the condition before and after corrective surgery. Images were obtained in a standardized manner, recording three essential moments: the preoperative period, with initial photographs before surgical correction; the immediate postoperative period, for evaluation of initial results; and the late postoperative period, performed at 30, 60, and 90 days, allowing a detailed analysis of eyelid adaptation and the healing process.

The interpretation of clinical data followed a structured flow, starting with the initial evaluation of physical examination findings and functional tests. Subsequently, systematic photographic recording documented the characteristics of the ectropion and its evolution throughout the treatment. Finally, data analysis allowed the identification of clinical patterns that supported the therapeutic decisions adopted in surgical correction.

To ensure ethical compliance, the research was conducted following current regulations. The patient provided Free and Informed Consent Form, authorizing the use of clinical data and images exclusively for academic purposes. All information was treated with confidentiality, in accordance with the guidelines of the National Research Ethics Council (CONEP) and other regulations applicable to clinical research in ophthalmology.

The patient, female, 49 years old, with no known allergies or significant medical history, underwent transcutaneous lower blepharoplasty. During the surgical procedure, there was an intercurrent in the coagulation process, resulting in intense bleeding. Although the surgery was performed on an outpatient basis, strict control of bleeding was necessary in the subsequent days. The condition stabilized after three days, and the sutures were removed ten days later.

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In the postoperative period, the development of ocular ectropion was observed, accompanied by conjunctival exposure and excessive tearing (Figure 2). To minimize eyelid eversion and promote anatomical recovery, the patient was treated with topical medication, including artificial tears, in addition to the use of eyelid support tape for a period of four weeks.

At the end of this recovery period, the patient underwent a complementary clinical evaluation, including the Snap-back test and Distraction test. The results showed a recovery time of less than three seconds (Figure 3), indicating significant eyelid laxity. This finding reinforced the need for surgical correction to re-establish eyelid dynamics, as distraction tests are essential in assessing the tonicity of eyelid tissues.

Considering this clinical analysis, the medical team presented two surgical options to the patient:

- Modified Fricke technique – A rotational fasciocutaneous flap, used to reposition the eyelid and improve structural support.
- Tarsal strip technique – Characterized by shortening the lower tarsus and forming a

Figure 2: Initial physical examination of the patient, evidencing lower eyelid ectropion after blepharoplasty.



Source: Elaborated by the author.

Figure 3: Physical examination complemented by the Snap-back test and Distraction test, indicating a recovery time of less than three seconds, reinforcing the need for surgical intervention.



Source: Elaborated by the author.

new external ocular canthus, promoting lasting structural correction (Figure 4).

Figure 4: Proposed tarsal strip technique, chosen by the patient.



Source: Elaborated by the author.

After discussion with the medical team, the patient opted for the tarsal strip technique, due to its effectiveness in ectropion correction, preserving both the functionality and aesthetics of the lower eyelid.

3 Discussion

The findings of this study reflect a pattern frequently described in the literature on cicatricial ectropion after lower blepharoplasty, demonstrating how intraoperative and postoperative factors influence the condition's evolution. The development of ectropion in the patient, characterized by significant conjunctival exposure and persistent tearing, reinforces clinical concern about eyelid retraction associated with dysfunctional healing, already documented in previous studies [3, 6].

The intense bleeding that occurred during blepharoplasty required rigorous control, which may have negatively impacted the quality of healing, contributing to the formation of less elastic scar tissue. Studies such as that by Modrau et al. (2020) indicate that alterations in intraoperative coagulation are directly linked to the development of eyelid retraction, as they influence the inflammatory response and the deposition of extracellular matrix at the surgical site.

The need for early intervention with artificial tears and eyelid support tape is also consistent with recommendations in the literature. Worley Huang and Macdonald (2020) emphasize that immediate conservative management can minimize late complications, promoting a favorable environment for anatomical recovery. In the patient's case, this strategy was useful in attempting to stabilize the eyelid position before the need for definitive surgical correction.

The functional tests performed on the patient, Snap-back test and Distraction test, showed a recovery time of less than three seconds, indicating significant eyelid laxity.

According to Araújo et al. (2024), the assessment of lower tarsal resistance through these tests is essential to determine the need for surgical intervention, as excessively lax eyelids can compromise ocular protection and anatomical stability.

Still within this approach, Yan et al. (2022) reinforce that the decrease in skin elasticity and eyelid ligament support are determining factors in the indication for surgical correction, fully justifying the therapeutic decision in the case under study.

The patient's choice for the tarsal strip technique was based on its effectiveness in anatomical and functional repositioning, preserving eyelid symmetry and reducing recurrence risks. Comparatively, Ginguerra et al. (2022) demonstrated that this technique presents high success rates in ectropion correction, providing more lasting structural support compared to alternative methods.

On the other hand, the modified Fricke technique, which uses a rotational fasciocutaneous flap, is widely recommended for severe ectropion, ensuring greater tissue mobility and adaptation to facial structure [3]. However, considering the degree of the condition presented by the patient, the tarsal strip technique proved more suitable to meet her functional and aesthetic needs.

Despite providing a detailed report on the clinical evolution of a patient with post-blepharoplasty ectropion, some limitations should be considered:

- This study analyzed a single case, requiring an expanded sample to consolidate observed clinical trends.
- Individual characteristics, such as skin type and scar response, can influence surgical outcomes, requiring further comparative investigation among different patient profiles.
- New therapeutic approaches, including the use of PRP and polydeoxyribonucleotide (PDRN), should be explored to evaluate their effectiveness in preventing eyelid complications [6, 7].

Given the challenges presented, future research should focus on the functional evaluation of the lower eyelid and the development of less invasive techniques, aiming to improve surgical outcomes and minimize complication risks.

4 Conclusion

This study synthesizes the clinical experience of a patient with cicatricial ectropion after lower blepharoplasty, highlighting how intraoperative and postoperative events influence the evolution of this complication. The findings demonstrate that the occurrence of intense bleeding during the procedure can compromise the quality of healing, contributing to the formation of less elastic scar tissue and, consequently, to the development of eyelid ectropion. Furthermore, functional evaluation, performed through the Snap-back test and Distraction test, corroborated the presence of significant eyelid laxity, justifying surgical intervention with the tarsal strip technique.

This report contributes to the advancement of knowledge in the area by articulating clinical findings with existing literature. The analysis reinforces the importance of early intervention and appropriate conservative management in the postoperative period. Moreover, the relevance of choosing the surgical technique is highlighted, which, in the case in question, demonstrated effectiveness in anatomical repositioning and functional stability

of the lower eyelid. These contributions have practical relevance, as they provide subsidies for refining therapeutic strategies in similar cases.

However, this study presents methodological limitations that should be considered. Firstly, the investigation is based on a single case, which restricts the generalization of results. Additionally, individual patient characteristics, such as skin type and scar response, may have influenced the observed outcomes, limiting extrapolation to other clinical profiles. Thus, the need for more comprehensive future investigations, contemplating different individual characteristics and surgical protocols, is recognized.

Perspectives for future research include the adoption of new methodological approaches, allowing a more detailed analysis of the influence of individual factors on post-blepharoplasty healing. Furthermore, the exploration of complementary therapies, such as the use of PRP and polydeoxyribonucleotide (PDRN), can offer significant advancements in preventing eyelid complications. Such investigations may promote theoretical and empirical deepening, contributing to the development of less invasive techniques with better safety and surgical efficacy profiles.

In summary, the presented results reaffirm the complexity of therapeutic challenges in the management of cicatricial ectropion, providing theoretical and practical contributions that can guide the improvement of clinical and surgical approaches in the ophthalmological area.

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