Improving the results of upper eyelid blepharoplasty: zetaplasty to correct lateral eyebrow sliding

Melhorando os resultados da blefaroplastia superior: zetaplastia para correção de queda do supercílio lateral

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■ **ABSTRACT**

Introduction: A frequent aesthetic problem that occurs in the aging process is the drooping of the eyebrows, more common and evident in the mid lateral aspect. **Methods:** In order to obtain a satisfactory cosmetic result associated with minimal scar extension, we present a less invasive technique, indicated for select patients who present with dermatochalasis and lateral eyebrow sliding. **Results:** This technique showed to be an easy procedure to execute and resulted in satisfactory aesthetic outcomes, similar to the technique described by Castañares, with the advantage of scar limited to the lateral region. **Conclusions:** As another option for the surgical elevation of the eyebrow lateral third segment, an easy Z-type skin flap transposition is a cost-effective procedure that can offer less evident scars with a natural aesthetic effect in this exposed area of the face.

Keywords: Blepharoplasty; Plastic surgery; Surgical flaps.

■ **RESUMO**

Introdução: Um problema estético frequentemente observado no processo de envelhecimento facial é a queda dos supercílios, principalmente na sua porção lateral. **Métodos:** A fim de obter resultados estéticos satisfatórios e cicatriz menos extensa, apresentamos uma técnica menos invasiva para elevação do supercílio lateral. Esta técnica é indicada para casos selecionados de pacientes com dermatocálaze associada à queda da porção lateral do supercílio. **Resultados:** A técnica mostrou-se de fácil execução, proporcionando resultados estéticos gratificantes, similares aos da técnica descrita por Castañares, com a vantagem de resultar em cicatrizes limitadas à região lateral do supercílio. **Conclusões.** A zetaplastia com transposição de retalhos cutâneos no terço lateral dos supercílios mostrou-se uma boa opção para a elevação desta área. Além de ser pouco invasiva, esta técnica apresenta como vantagens cicatriz pouco evidente, menor custo e proporciona um efeito estético natural nesta importante região da face.

Descritores: Blefaroplastia; Cirurgia plástica, Retalhos cirúrgicos.

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INTRODUCTION

Many patients seeking rejuvenation through upper blepharoplasty are concerned only with the upper eyelid, without a conscious recognition of the role played by the lateral brow descent. In these cases, the patient usually assumes that his/her appearance is easily correctable by a standard upper blepharoplasty only. Achieving a satisfactory aesthetic result begins, therefore, with a careful preoperative examination of the patient's anatomy and assessment of the patient's desires, which must be balanced with conservation of ocular protective mechanisms, in order to avoid disappointment in the surgical results[1-5].

Several surgical techniques have been used to manage brow ptosis. Conventional approaches are typically associated with more aggressive procedures, such as direct-approach skin resections at the hairline and scalp, as well as endoscopic, temporal and coronal lifts[5-8]. However, patients expecting improvement with a standard upper blepharoplasty typically reject these procedures.

OBJECTIVE

This article describes a less invasive and cost-effective procedure to obtain a satisfactory aesthetic outcome in selected pactients. Zetaplasty was performed on the eyebrow to improve the upper blepharoplasty results in cases of lateral brow sliding associated with dermatochalasis (Figures 1A, 1B, 1C).

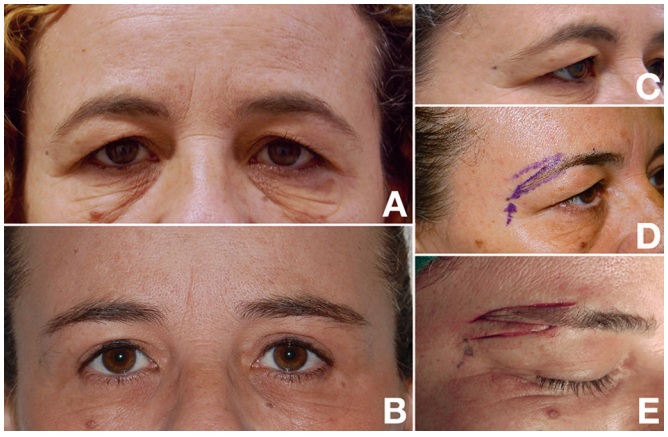

Figure 1. A 44-year-old white female patient presenting with dermatochalasis and lateral eyebrow sliding; **A:** Frontal view before surgery; **B:** Frontal view one year after lower and upper blepharoplasty associated with zetaplasty on the lateral portion of the brow; **C:** Lateral view before the surgical procedure; **D:** Skin marking in the eyebrow area; **E:** Intraoperative aspect after the flaps transposition.

METHODS

With the patient standing and looking forward, zetaplasty demarcation begins by drawing a straight line from the highest point of the center of the eyebrow laterally to the end of the area with hair. Another line is drawn parallel to the hair-bearing area just above and below the hair follicles. The final design should be a z-flap with a superior skin flap on the frontal region and an inferior hairy flap (Figure 1 D).

Zetaplasty to correct lateral brow sliding can be performed in association with upper blepharoplasty under local anesthesia and sedation. It begins with a superior skin incision over the frontal area. The other incision is beveled, just above and below the brow, avoiding injury to the hair follicles. The flaps are undermined subcutaneously and hemostasis, as well as manipulation is performed very carefully. The flaps are transposed and the skin is closed with isolated 6-0 nylon sutures. (Figure 1 E).

RESULTS

The zetaplasty approach in conjunction with the upper eyelid blepharoplasty showed very satisfactory aesthetic outcomes, leading to an adequate lateral eyebrow position and minimal scarring after surgery (Figures 1B, 2 and 3). No postoperative complaints or complications have so far been reported after this technique.

Figure 2. Preoperative and 6 months postoperative aspects of a 55-year-old patient submitted to upper and lower blepharoplasty and zetaplasty at the lateral aspect of the eyebrow.

DISCUSSION

The ideal eyebrow design has changed over time. Art historian Johann Winckelmann (1717-1768) stated that the perfect eyebrow formed a delicate arch just over the brow bone[9]. In 1975, the ideal brow was described as having its highest point located above the lateral limbus[10]. More recently[9], it was observed that the general public preferred the apex of the brow to be located in a more lateral position than the lateral limbus (Figure 4).

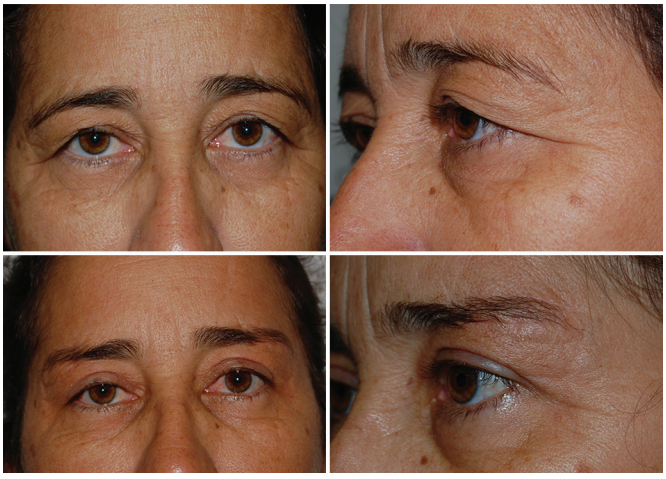

Figure 3. Preoperative and 6 months postoperative aspects of a 47-year-old female patient who underwent upper lid blepharoplasty combined with lateral zetaplasty on the eyebrow.

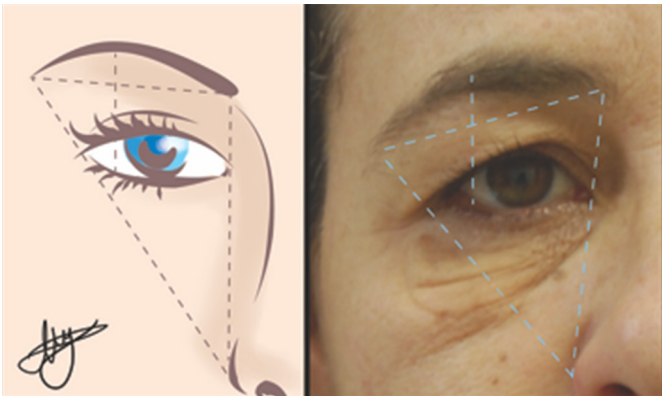

Figure 4. The illustration shows the current beauty trend for the eyebrow, after studies of Schreiber et al.[9] Photograph shows that our patient's eyebrow position differs from the ideal position, as demonstrated by the dashed lines.

Lateral brow sliding can be considered an early sign of facial aging[11]. Clinical observations and cadaver dissections confirmed other authors' findings on brow positioning. In most patients, the only area of the eyebrow that descends with age is the tail. The lateral half of the brow tends to drop more than the medial because of the more secure muscular attachments of the medial brow[1,11].

Surgical approaches to assess brow ptosis include coronal, temporal, mid-forehead, and endoscopic brow lifts, in addition to direct and trans-blepharoplasty brow lifts. The former procedures are more complex and cost-prohibitive and require a longer learning curve. They are associated with potential complications, such as paresthesia, alopecia, and visible scars[1,5,8].

Some individuals find considerable drooping of the lateral parts of the eyebrows, leading to a sad look, to be more disturbing than the presence of wrinkles on the forehead and in the glabellar region. These patients typically reject more aggressive brow lift approaches. In such upper blepharoplasty candidates, the zetaplasty approach to correct lateral eyebrow sliding is an option to be considered.

Although direct brow lifts, such as the technique described by Castañares[6] and transpalpebral browpexy approaches, are less aggressive procedures to elevate the brow position, conspicuous scarring may occur following a direct approach, and less lift than desired may be associated with transpalpebral approaches[1,2,3,12].

The zetaplasty approach in conjunction with the upper eyelid blepharoplasty proved to be a rapid procedure that can be easily performed in selected patients, with a satisfactory aesthetic outcome. A major concern for most surgeons who have not performed this approach may be the zetaplasty scar. However, when performed in Caucasian patients, who usually present thinner skin, the scar becomes almost imperceptible six months postoperatively. As noted by other authors who performed other techniques in the brow region, scars heal very well and make-up can be used to help attenuate them in this region[13-17]. Other advantages of this technique include a shorter learning curve and cost-effectiveness of the procedure when compared with more aggressive brow-lift approaches.

There is a limited number of patients in whom this procedure can be performed: patients with Fitzpatrick skin types I, II and III, preferably women (because of the use of make-up while the scar is still apparent), who present with dermatochalasis of the upper lids with significant lateral brow sliding and who do not desire a complex procedure to elevate the lateral portion of the brow. Patients who need elevation of the entire brow complex, patients with darker skin types, or patients who cannot tolerate even minimal scarring are not the best candidates for this approach.

Explaining the potential favorable and less favorable outcomes is mandatory for meeting patients' expectations. Selected patients who are reluctant to proceed with more aggressive brow-lifting procedures and those who underwent a single blepharoplasty procedure and are unhappy with the lateral hooding are potential candidates for the zetaplasty approach to elevate the lateral brow.

CONCLUSION

The zetaplasty approach in conjunction with upper eyelid blepharoplasty showed satisfactory aesthetic outcomes, leading to an adequate lateral eyebrow position and minimal scarring after surgery. No postoperative complaints or complications have been reported so far with this technique.

COLLABORATIONS

THO Analysis and/or interpretation of data; final approval of the manuscript; conception and design of the study; writing the manuscript or critical review of its contents.

CAAF Analysis and/or interpretation of data; final approval of the manuscript; conception and design of the study; completion of surgeries and/or experiments; writing the manuscript or critical review of its contents.

MHO Analysis and/or interpretation of data; final approval of the manuscript; conception and design of the study; writing the manuscript or critical review of its contents.

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