Blepharoplasty with CO_2 Laser

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CASE STUDY

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INTRODUCTION

Blepharoplasty is the surgery that seeks to rejuvenate the eyelids by remodeling the periocular tissues. It is performed mainly for aesthetic reasons, but in some cases also for visual reasons (functional blepharoplasty) since the skin drop of the upper eyelids can cause a reduction of the visual field. [1,2]

The cosmetic surgery of the eyelids can be performed in adults of all ages and in both genders. Some patients undergo surgery to correct problems of laxity of the skin or blepharochalasis even at an early age such as 20 or 30 years. [3,4]

The aging process causes several changes in the periocular area. In the upper eyelid are characterized by an excess and fall of the skin of the eyelid, which causes an aesthetic alteration but, in some cases, also causes an alteration of the visual field of the patient and ocular fatigue due to the weight that the excess of skin represents for the eyelid. This is a condition called dermatochalasis. Another condition associated with aging is the presence of a palpebral ptosis caused by laxity of the fibers of the elevator palpebrae superior muscle. [5-7]

In the lower eyelid, the laxity of the fibro tendinous structures that appear with age causes two fundamental changes at the eyelid level. On the one hand, the orbital fat, which occupies a large part of the orbit, is herniated forward, becoming visible on the skin and giving rise to the known "bags". Secondly, the stretching and flaccidity of the skin, orbicular muscle and tendons of the eyelids give rise to wrinkles, folds and a lower eyelid descent and droopiness of the lower eyelids, showing white below the iris (colored portion of the eye). [8]

Likewise, palpebral positions such as ectropion, which in turn would produce an alteration in the drainage of the tear, can also occur in association with aging.

Aesthetic eyelid surgery can usually correct these problems, though other treatments may also need to be considered. For example, if the upper eyelid condition is accompanied by sagging of the eyebrows.

The upper and lower Blepharoplasty procedure was made during 25 years with the Novalupse CO_2 laser in the cut mode at 5 or 6 WATTS, either with the titanium tip or with the diamond blade and the CO_2 laser. The technique allows us to remove excess skin, fat and sometimes muscle, without bleeding, making the procedure faster and without residual bruises for the patient.

Because of individual factors, not everyone will achieve the same results from eyelid surgery. The surgeon will choose the most appropriate technique for each patient. As an example, we have performed different variants of the same technique in over 2000 patients. Most of them from Latin-American origin and wanting to correct

some degree of ptosis, laxity of skin, blepharochalasis, dark eye, etc.

Key Words: Ablative, aging, blepharochalasis, blepharoplasty, CO_2, eyelid, laser, ptosis, rejuvenate.

MATERIAL AND METHOD

Over the last 25 years we have been using the Novapulse CO_2 Laser, which has allowed us to perform upper and lower Blepharoplasty in an ablative mode. Nowadays, we perform the same procedure with the Acupulse CO_2 laser, which also allows us to treat laxity of skin and wrinkles at the same surgical procedure.

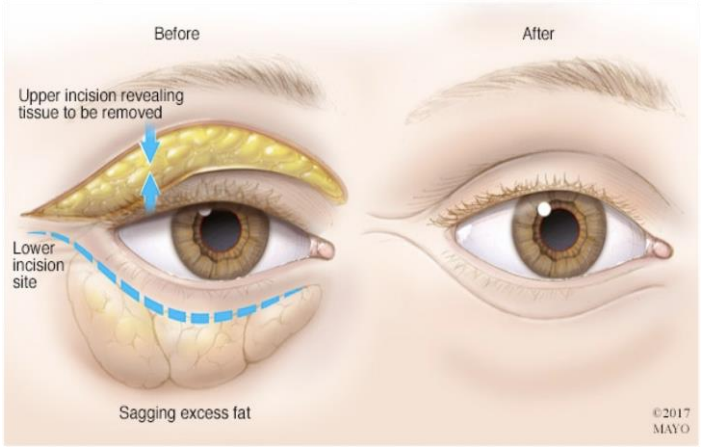
The upper and lower Blepharoplasty procedure was performed for over 25 years with a CO_2 laser cut, either with the titanium tip or with the diamond blade and the CO_2 laser.

Blepharoplasty of the upper eyelid consists in the elimination of excess skin and in some cases a part of the underlying organic muscle. Some cases can also be eliminated from the fat internal package, but always conservatively. For this surgery we make incisions with the CO2 laser following the Langer´s lines, which avoid the visibility of the scars. The technique allows us to remove excess skin, fat and sometimes muscle without bleeding making the procedure more patient friendly with less recovery time, no bruising and less painful. (9)

In blepharoplasty, we must distinguish between the treatment of the bags and the treatment of laxity and wrinkles of the skin. We treat the fat bags of the eyelids by reducing them. The reduction of the fat packs is done in patients who have medium or large bags and can be made with the CO_2 laser at an ablative mode even by 1.5 to 2 WATTS. [10,7]

In the rest of the patients, it may be preferable to reposition them, using the patient's own fat to erase the grooves that exist under the bags. In both cases, the handling of the bags can be done externally, making an incision through the skin with the CO_2 laser, or internally through the conjunction (transconjunctival way). The advantages of the transconjunctival approach are many, including the absence of a visible scar, a faster recovery and greater security.

Sometimes it is also necessary to fix lax structures to deeper planes such as the canthopexy. In some case it may be necessary to remove a small amount of lower eyelid skin.



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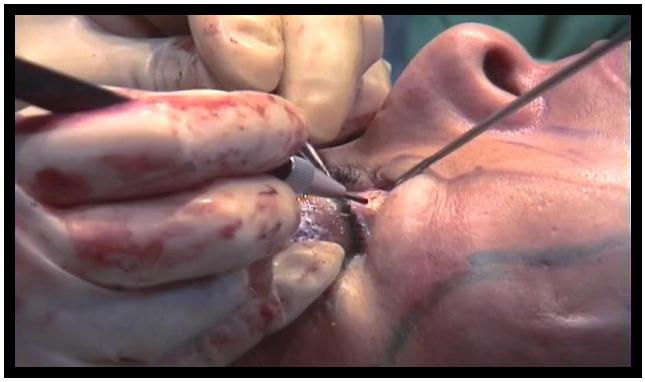

Finally, the treatment of laxity of the lower eyelid depends on the severity of this and uses the rejuvenation of the skin with CO_2 or Erbium laser according to the skin tone of the patient. We recommend using Erbium laser with Fitspatrick skins greater than III and CO_2 or Erbium laser in lower Fitspatrick grades.

Some of the adverse effects of eyelid surgery and skin resurfacing with CO_2 laser are skin redness, moderate swelling, peeling and skin exudate for 4 days.

COMPLICATIONS

Complications of blepharoplasty are rare when performed by an expert surgeon. The most serious and infrequent are those that can affect the vision and the ocular surface, the retraction of the eyelid, or reactions to anesthesia. [6,8] Some of the potential complications that may include hematoma, severe swelling and infection.

Following surgery, there can be a feeling of dryness or irritation in the eye that requires treatment. These can cause dry eye, keratitis and blindness. There is a possibility of a temporary decrease in sensation of the eyelid skin or impaired eyelid function that sometimes may need to be corrected by additional surgery [5]. Less serious, although more frequent, are the slight asymmetries, the insufficient correction of the skin or the pouches and the conjunctival edema.

With the transconjunctival technique we can avoid complications such as ectropion, visible sclera and changes in the shape of the eye and the look expression.

CONCLUSIONS

The goal of blepharoplasty is to restore a more youthful appearance to the eye, maintaining the features of each person, providing a natural appearance, avoiding visible scars and protecting eye health. The evolution of surgical techniques in recent years has been the result of better knowledge of facial aging processes. The most important change has been the adoption of less invasive technology such as CO_2 Laser and more conservative techniques such as transconjunctival access, seeking greater tissue preservation and to avoid "empty" eyes or skeletonized traits.

Blepharoplasty is usually done with local anesthesia, and in many cases intravenous sedation is also used for greater patient comfort. General anesthesia is used when other more invasive surgeries are performed at the same time. The duration of the surgery is very variable, from 30 minutes to 1 hour generally. The recovery time after surgery is characterized by the appearance of a little edema that improves with the application of cold during the first week. It is a usually a painless process and the complete swelling recovery can take between 3 and 6 days, although the scars will improve during 4 to 6 months.

RESULTS

Figure 1: 63-year-old male before surgery.

Figure 2: 63-year-old male 1 month after surgery.

Figure 3: 63-year-old male before surgery.

Figure 4: 63-year-old male 1 month after surgery.

Figure 5: 47-year-old female before surgery.

Figure 6: 47-year-old female 1 month after surgery.

Figure 7: 47-year-old female before surgery.

Figure 8: 47-year-old female 1 month after surgery surgery.

Figure 9: 47-year-old female before surgery.

Figure 10: 47-year-old female 1 month after surgery.

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