SELÇUK TIP DERGİSİ / SELCUK MEDICAL JOURNAL

Olgu Sunumu / Case Report

Selcuk Med J 2018;34(2): 77-79

DOI: 10.30733/std.2018.00927

Usage of Bipedicle Flap and Midface Lift in the Treatment of Lagophthalmus Developed After Blepharoplasty: Case Report

Blefaroplasti Sonrası Gelişen Lagoftalmus Tedavisinde Bipediküllü Flep ve Orta Yüz Kaldırma Kullanımı: Olgu Sunumu

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Geliş Tarihi/Received: *14 November 2016*
Kabul Tarihi/Accepted: *19 December 2016*

Öz

Lagoftalmus, göz kapaklarını tamamen kapatamamak nedeniyle korneanın açıkta kalmasına bağlı (sclera görülmesi) ortaya çıkan, korneal skar ve görme kaybı ile sonuçlanabilecek yetersizliktir. Üst göz kapağının derisinin yumuşak ve esnek yapısı göz kırpmayı kolaylaştırır. Üst göz kapağını yumuşak ve esnek yapısına döndürmek için tedavi seçenekleri olarak, Z-plasti, V-Y ilerletme flepleri, tam kalınlıkta deri greftleri ve pediküllü flepler tanımlanmıştır. Bu çalışmanın amacı, bleferoplasti sonrası üst göz kapağının dikey kısalığına bağlı gelişen lagoftalmus tedavisinde alternatif bir seçenek olarak bipediküllü flep ve orta yüz kaldırmanın kullanımını göstermektir.

Anahtar kelimeler: Lagoftalmus, orta yüz kaldırma, tedavi

Abstract

Lagophthalmus is the inability to close the eyelids completely leading to exposed cornea (scleral show) which can result in corneal scar formation and vision loss. The skin of upper eyelid is soft and flexible, so this makes winking easier. To return the upper eyelid its soft and flexible structure, Z-plasty, VY advancement flaps, full-thickness skin grafts, and pedicle flaps are defined as treatment options. The aim of this study was to demostrate the usage of bipedicle flap and midface lift as an alternative treatment option for lagophthalmus that is related to the vertical shortness of upper eyelid developed after blepharoplasty.

Keywords: Lagophthalmus, midface lift, treatment

INTRODUCTION

Lagophthalmus is the inability to close the eyelids completely leading to exposed cornea (scleral show) which can result in corneal scar formation and vision loss (1). The most frequent cause of lagophthalmus is facial paralysis, but it may also be related to the vertical shortness of upper eyelids caused by trauma, scar or inflammation (1,2). Treatment options of lagophthalmus related to facial paralysis include transposition of the temporalis muscle, canthoplasty, chantopexy, or gold implants; lagophthalmus related to vertical shortness of upper eyelid can be treated by partial or full thickness skin grafts, local flaps and Z-plasty (2,3).

The aim of this study was to demostrate the usage of bipedicle flap and midface lift as an alternative treatment option for lagophthalmus that is related to the vertical shortness of upper eyelid developed after blepharoplasty.

CASE

53-year-old female patient was applied to our clinic with the complaint of inability to close her eyelids. Examination of the patient revealed scars on both of the upper eyelids which were also vertically short (Figure 1). Consequently, she was unable to close her eyelids completely leaving an exposed cornea (Figure 2).

The case history revealed that she had a blepharoplasty surgery two years before and after the surgery the vertical shortness of the upper eyelids developed because of over excision. Later, the

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Cite this article as: Ince B, Dadaci Z, Altuntas Z, Dadaci M, Bilgen F. Usage of Bipedicle Flap and Midface Lift in the Treatment of Lagophthalmus Developed After Blepharoplasty: Case Report. Selcuk Med J 2018;34(2): 77-79.

Disclosure: *None of the authors has a financial interest in any of the products, devices, or drugs mentioned in this article. The research was not sponsored by an outside organization. All authors have agreed to allow full access to the primary data and to allow the journal to review the data if requested.*

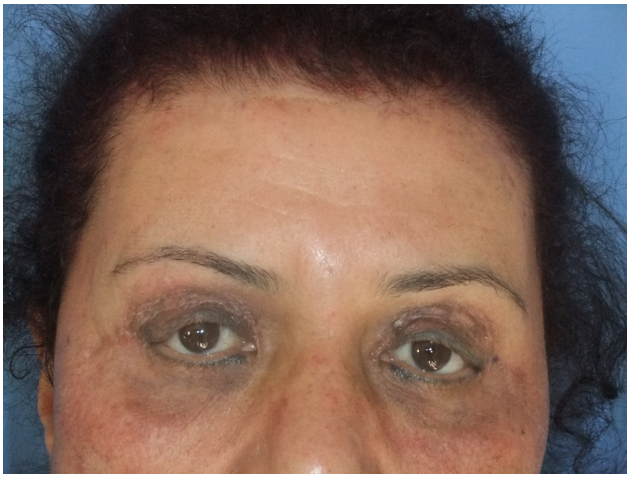

Figure 1. Appearance of the scars on both of the upper eyelids which were also vertically short.

patient was subjected to reconstruction surgery by full thickness skin graft twice. Lagophthalmus arose after secondary contraction of the grafts. Because the patient did not want reconstruction by grafts, it was planned to perform midface lift and transfer the excess tissue to reconstruct the upper eyelids.

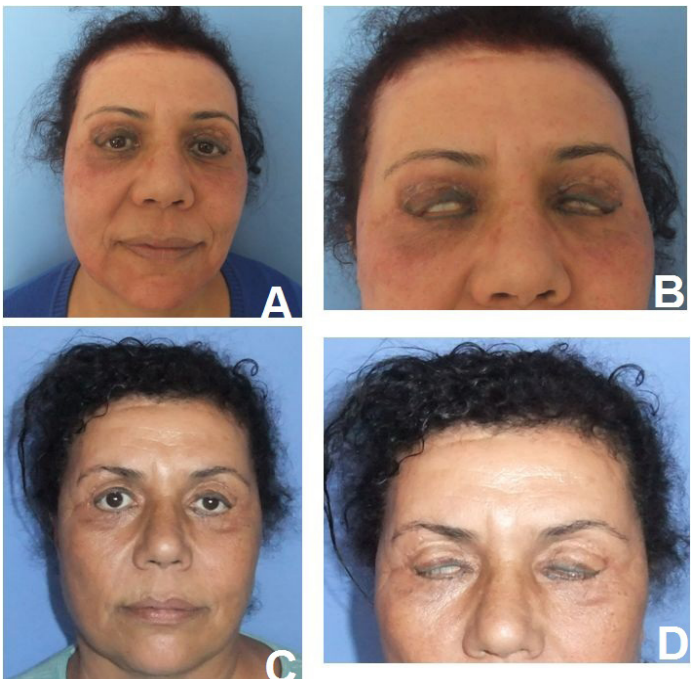

Figure 2. A. Preoperative appearance of patient B. She was unable to close her eyelids completely leaving an exposed cornea C. Postoperative appearance of patient D. Patient was able to close the eyelids almost completely and the result was aesthetically acceptable

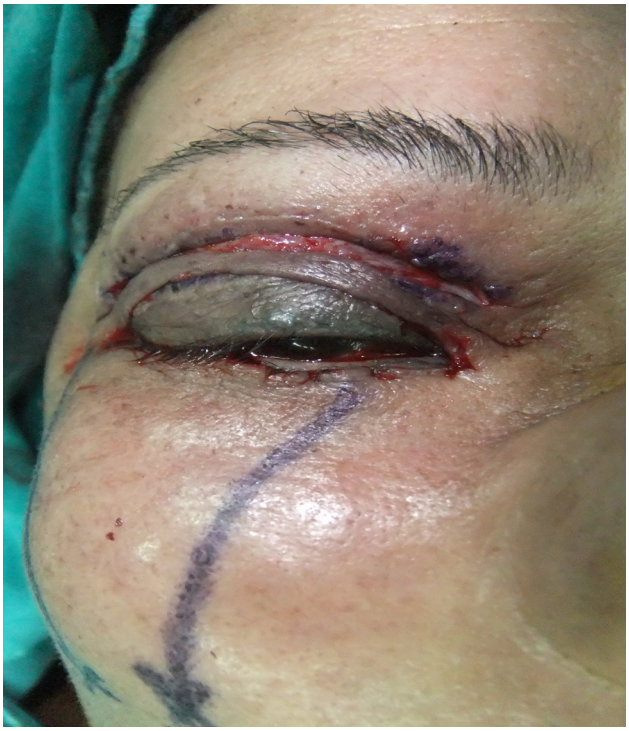

Figure 3. The extra skin formed between the lower eyelid and incision line was transformed to a bi-pedicle flap and transferred to the right upper eyelid

Midface lift was performed, starting with subsilier and gingivobukkal incision and moving on subperiostal plan. The extra skin formed between the lower eyelid and incision line was transformed to a bipedicle flap and transferred to the upper eyelid (Figure 3). After two weeks, the flap pedicles were removed under local anesthesia.

No complication was observed at postoperative follow-up, patient was able to close her eye-lids completely and the result was aesthetically acceptable (Figure 2).

DISCUSSION

This study demostrated that bipedicle flap elevated from the lower eyelid in conjunction with with midface lift may be a successful treatment option for cicatricial lagophthalmus. The lower eyelid skin is more compatible with the upper eyelid skin, and replaced the dark scar at the upper eyelid which was formed secondary to previous unsuccessful full thickness grafts. In addition to the reconstruction of the upper eyelid, aesthetical rejuvenated midface was achieved.

The skin of upper eyelid is thin, soft and flexible, so this makes winking easier. The thinnest skin of the

body is on the eyelids. Epidermal thickness is 0.04 mm and dermal thickness is 0.2 mm on the eyelids (4). The aim of the cicatricial lagophthalmus treatment is to return the upper eyelid its soft and flexible structure. For this, Z-plasty, VY advancement flaps, fullthickness skin grafts, and pedicle flaps are defined as treatment options (2,3,5,6).

Skin graft is the most frequently used method. However, risk of skin contraction, scar formation, and unnatural appearance are quite high. This makes winking harder (1,2). As a matter of fact, it was tried twice in our case previously, but it was not successful.

Eyelid reconstruction with orbicularis oris subcutaneous pedicle island flap was defined in upper eyelid soft tissue deficiency (8). In addition, Stephenson (9) reported that temporal flap can be used in eyelid reconstruction. Both techniques have complications including thickness of the skin, incompatibility in flexibility and quality. Usage of bipedicle flap lifted from upper eyelid for lower eyelid reconstruction is defined. This flap can be reversible, however it may result in ectropion if there is not enough soft tissue support.

Midface lift is a method for rejuvenescence of midface and it can be performed with several different techniques according to surgeon's preference. Incision place can also differ. In our case, subsilier incision was preferred because it was planned to elevate bipedicle flap from lower eyelid. Because the patient did not want a full rejuvenescence, sufficient amount of tissue was lifted for planned flap. Although some surplus was present on the chin of the patient postoperatively, it was decided that midface lifting was sufficient. A younger appearance can be achieved by performing more midface lifting for patients who want.

Contraction risk seen in skin grafts and skin incompability risk seen in other local flaps are not seen in the applied technique of ours. At the same time, extra skin emerged from midface lifting prevents the risk of ectropion lower eyelid. The main disadvantage of the technique is requirement of two seances. Second seance can be done under local anesthesia.

Midface lift and bipedicle flap can be an alternative option for lagophthalmus treatment for patients who have vertical shortness of upper eyelids accompanied with floppiness of midface.

Conflict of interest: *Authors declare that there is no conflict of interest between the authors of the article.*

Financial conflict of interest: *Authors declare that they did not receive any financial support in this study.*

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