

COMPARISON OF TWO DIFFERENT TECHNIQUES IN INVOLUTIONAL ENTROPION

INVOLUSYONEL ENTROPİUM TEDAVİSİNDE İKİ FARKLI TEKNİĞİN KARŞILAŞTIRILMASI

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ABSTRACT

Objective: To compare the results of two different techniques in the treatment of involutional (senile) entropion.

Materials and methods: Forty six eyes of 32 patients with involutional entropion who underwent surgical intervention in our clinic between June 1994 and December 2006 were retrospectively examined. Thirtytwo eyes of 22 patients underwent eyelid retractor reparation alone (1st group) and 14 eyes of 10 patients underwent eyelid retractor reparation+ horizontal eyelid shortening. (2nd group).

Results: The follow-up time was 9.8 ± 18.6 months (7-78 months) in the 1st group and 11.9 ± 10.7 months (7-42 months) in the 2nd group. Consequently, in the 1st group entropion recurrence was seen in 5 of 32 eyes (15.6%), while in the 2nd group entropion recurrence was seen in 1 of 14 eyes (7.1%).

Conclusion: The aim of treatment of involutional entropion should be the direct repair of the primary defect. If the eyelid laxity exists, eyelid retractor repair should be performed with the horizontal eyelid shortening.

Key words : Involutional entropion, lid retractor reparation, horizontal eyelid shortening

ÖZET

Amaç : İnvolyusyonel entropium tedavisinde iki farklı tekniğin karşılaştırılması

Gereç ve yöntem : Haziran 1994-Aralık 2006 tarihleri arasında kliniğimizde involyusyonel entropium nedeni ile cerrahi tedavi uygulanmış 32 hastanın 46 gözü retrospektif olarak incelendi. Yirmiiki hastanın 32 gözüne kapak retractor tamiri (1.grup), 10 hastanın 14 gözüne ise kapak retractor tamiri+ horizontal kapak kısaltılması (2.grup) uygulandı.

Sonuç : Ortalama takip süresi 1.grupta $9,8 \pm 18,6$ ay (7-78 ay), 2.grupta ise $11,9 \pm 10,7$ ay (7-42 ay) olarak tespit edildi. Rekürrens 1.grupta 32 gözün 5'inde (% 15,6), 2.grupta ise 14 gözün 1 tanesinde (%7,1) görüldü.

Tartışma : İnvolyusyonel entropium tedavisinde amaç primer nedene yönelik olmalıdır. Kapak gevşekliği mevcutsa retractor tamiri ile birlikte horizontal kapak kısaltılması uygulanmalıdır.

Anahtar kelimeler : İnvolyusyonel entropium, kapak retractor tamiri, horizontal kapak kısaltılması

INTRODUCTION

One of the most frequent forms of entropion is involutional (senile) entropion. As a result of the contact of the cornea by the eyelids and eyelashes, corneal ulceration and vascularization may develop. The main factors in the pathogenesis of senile entropion are slackening and loss of tonus to both the eyelids and the orbital tissues (1-3).

In order to obtain normal eyelid position, there is a balance between anterior and posterior lamina of the eyelid. When the anterior lamina is weakened as a result of chan-

ges due to aging, ectropion can subsequently develop. If the eyelid retractors are loose but the preseptal orbicularis muscles remain strong, the preseptal orbicularis muscles can override the pretarsal orbicularis muscle causing the eyelid to turn inward and consequently lead to entropion. Since the upper eyelid has a larger tarsus, involutional entropion most often occurs in the lower eyelid. Although many surgical methods have been developed for the treatment of senile entropion, preventative measures to decrease the risk of predisposing factors have only been adop-

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ted recently. Thus, a careful eyelid examination that includes measurement of the eyelid laxity, determination of the canthal tendons laxity, careful search for orbital fat tissue atrophy and proper evaluation of the eyelid retractors through the conjunctival side should be made (4-7).

In this study, eyelid retractor repair was performed on cases that have minimal horizontal eyelid laxity and had only retractor weakness and/or dehiscence. Horizontal shortening and retractor repair operation were performed on cases that had marked eyelid laxity along with retractor weakness and/or retractor dehiscence. The surgical results of these two methods are then compared in the late postoperative period.

MATERIAL and METHODS

Fourty six eyes of 32 patients (of whom 7 patients had both eyes operated upon) were operated at Istanbul Faculty of Medicine, Department of Ophthalmology, Oculoplastic Department between June 1994 - December 2006. Signs of senile entropion were evaluated retrospectively. The survey assessed the patients' age, complaints prior to the operation, history of accompanying eye disease or systemic diseases, trauma history, surgical method performed, follow-up times after operation and postoperative findings. Patients who had previously known trauma, dermatologic diseases or burn histories were excluded from the study.

After establishing diagnosis of senile entropion, 32 eyes of 22 patients (bilateral operation in 10 patients) underwent eyelid retractor repair, while 14 eyes of 10 patients underwent eyelid retractor repair + horizontal eyelid shortening operation. Patients who underwent eyelid retractor repair alone were classified as the 1st group and patients who underwent eyelid retractor repair + horizontal eyelid shortening operation were classified as the 2nd group.

The mean ages of the first (11 male and 11 female) and second group (5 male and 5 female) were 65 ± 11.04 (40-81 years) and 69.6 ± 5.5 (42-83 years), respectively. One of the patients in the 1st group underwent a previous identical operation, and another patient in the first group previously underwent the same operation twice in another clinic.

Operation Procedures :

Eyelid retractor repair: Blepharoplasty incision was made 2-3 mm below the eyelashes under local anesthesia. After initial skin incision, the orbital septum was opened along the dissection plane of the orbicularis muscle. Fat tissues were seen and the capsulopalpebral fascia was uncovered. Loose or dehisced lower retractors were reattached with 6-0 vicryl along the lower edge of the tarsus. After removing the excess skin and muscle, both the orbicularis muscle and the skin were sutured with a 6-0 vicryl that passed from the capsulopalpebral fascia. Figure 1 a-b shows the eyelid retractor repair technique schematically. Figure 2a-b shows a patient who underwent the eyelid retractor repair procedure, before and after the operation.

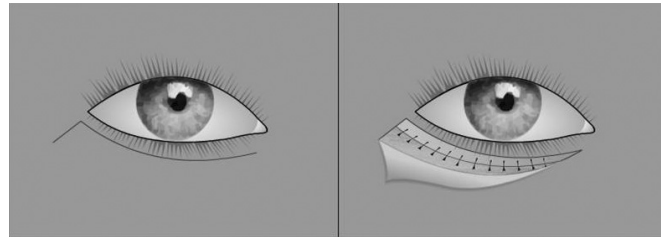


Figure 1a,b . Technique for eyelid retractor repair.

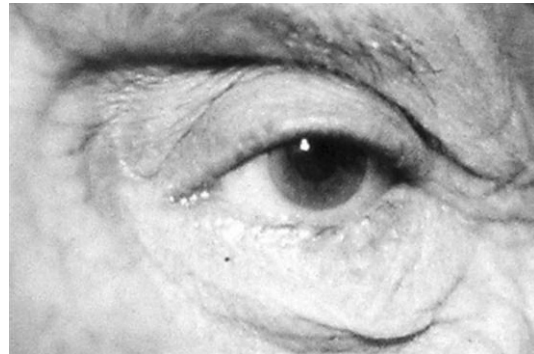


Figure 2a. Preoperative view of a patient who underwent eyelid retractor repair.



Figure 2b . Postoperative view of the patient 6 years after the operation

Eyelid retractor repair + horizontal eyelid shortening: Blepharoplasty incision was made 2-3 mm below the eyelashes under local anesthesia. After dissecting away the skin and orbicular muscle and uncovering the eyelid retractors, a vertical cut from the edge to the base of tarsus was made on the 1/3 outer part of lower eyelid. Depending on the laxity, a 2-5 mm pentagonal tissue that included all layers of skin, muscle and tarsus was removed. To bring the eyelids toget-

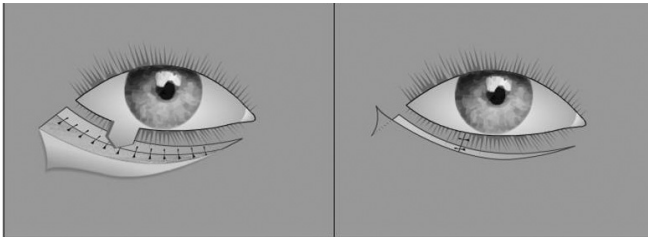


Figure 3a,b. Technique for eyelid retractor repair and horizontal eyelid shortening.

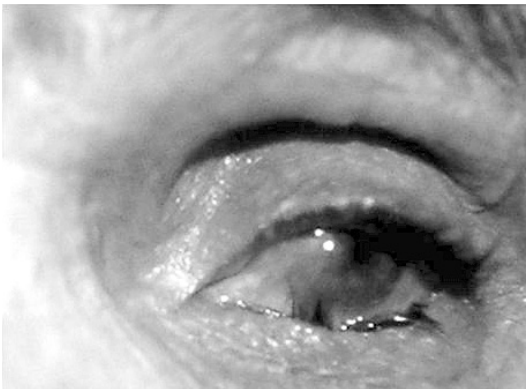


Figure 4a. Preoperative view of a patient who underwent eyelid retractor repair and horizontal eyelid shortening.

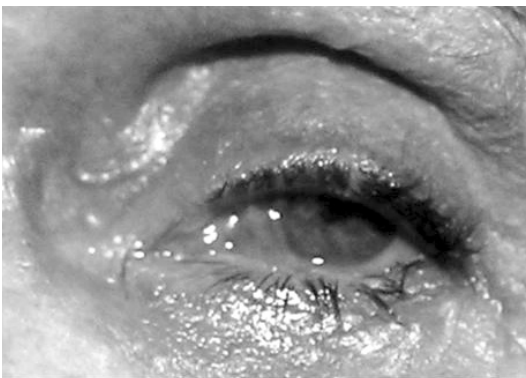


Figure 4b. Postoperative view of the patient 6 months after the operation.

her, the tarsus, orbicularis muscle and skin were sutured with a 6-0 vicryl starting from the gray line. In order not to cause corneal injury, the tarsus suture was tied at the cut side. The eyelid retractors were then sutured to the tarsus. To remove the excess skin and muscle flap, we made a continuous suturing of the skin and orbicularis muscle to the outer canthal zone with a 6-0 vicryl. The excess skin and muscle tissues of the canthal area were removed as an inverse triangle and closed with a 6-0 vicryl separately. Antibiotic ointment was subsequently applied four times a day for one week. The sutures were removed 1 week postoperatively. Figure 3a-b shows the technique of eyelid retractor repair + horizontal shortening operation schematically. Fi-

gure 4a-b shows the photographs of a patient who underwent the applied eyelid retractor repair + horizontal shortening procedure before and after the operation.

RESULTS

The follow-up time was 9.8 ± 18.6 months (7-78 months) in the 1st group and 11.9 ± 10.7 months (7-42 months) in the 2nd group. Three patients in the first group had recurrence after 6 months. One patient had recurrence after 2 years. The two patients who had slight entropion bilaterally did not have much subjective complaints and chose not to undergo a second operation. For the patient with recurrent unilateral entropion, another eyelid retractor repair + horizontal shortening operation was performed. This patient's entropion was improved and no recurrence was detected after two years' follow-up. For the 2nd group, recurrence was seen in one eye 6 months after the operation. Retractor repair was performed and no recurrence was seen after one-year follow-up.

Consequently, in the 1st group (eyelid retractor repair applied) entropion recurrence was seen in 5 of 32 eyes (15.6%), while in the 2nd group (with horizontal shortening + eyelid retractor repair procedure) entropion recurrence was seen in 1 of 14 eyes (7.1%).

CONCLUSION

With age, the tarsus weakens, becomes atrophic and turns inward easily. The tendons (especially the lateral tendons) become longer and this change causes horizontal eyelid laxity. The dynamics of the orbicularis muscle play an important role in the pathophysiology of the entropion process. If other involuntional changes are not present, the single finding of eyelid laxity may be an epiphora that depends on lost orbicularis muscle tonus. The preseptal orbicularis holds onto the orbital septum more weakly than the pretarsal muscle that adheres to the tarsus. When the eyes close, the lower eyelid rises upward and the preseptal orbicularis tends to override the pretarsal portion. This causes the lower tarsal edge to move farther away from the globe and the upper tarsal edge to move closer to the globe. As a result, the tarsus then turns inward 8,9. Clinical appearances of involuntional entropion due to excessive inwardness of the tarsus are more often slight and intermittent. However, the eyelids can develop an 180° inward turn in some cases.

The aim of surgical treatment of involuntional entropion is direct repair of the primary anatomic defect. If the eyelid laxity is the only finding, then simple horizontal shortening should be performed. If the horizontal laxity is minimal and retractor dehiscence is the main factor, compressing or re-suturing the retractors will improve the entropion. Recently, it was agreed that proper surgical correction should address all three factors, which include the overriding preseptal orbicularis, horizontal eyelid laxity and weakening or dehiscence of the lower eyelid retractors and that these factors should be corrected in the same operation. (13-15).

In other similar studies conducted at different centers, a greater rate of recurrence was noted in cases where horizontal eyelid shortening was not performed (%7-25) compared to cases where shortening was performed (%0-5) (10-12).

In one such study, Hedin (13) did not observe any recurrence in 45 cases where he performed retractor repair along with horizontal eyelid shortening, whereas recurrence occurred in 5 of 19 cases when only the retractor repair operation was performed within the same period. Furthermore, Danks (14) reported that improvements from entropion were seen in 178 of 180 patients (99%) who underwent the eyelid retractor repair + horizontal shortening procedure, whereas clinical improvements were seen in only 104 of 130 patients (78%) who underwent eyelid retractor repair only. Çiftçi et al (15) further showed that recurrence was seen in 7 of 37 eyes (18.4%) that underwent the retractor repair only, while no recurrence was seen in all 19 eyes that underwent the retractor repair + horizontal shortening procedure. We also noted more recurrence in patients without horizontal shortening.

Finally, in patients who have slight eyelid slackening, ignoring the horizontal shortening has led to operative failure. Therefore, improving the horizontal slackening (which plays a role in the pathophysiology of entropion), repairing the eyelid retractor and reconstructing the orbicular muscle in the same operation have collectively led to greater clinical improvement and decreased recurrence rate in the treatment of involuntional entropion.

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