

Long - Term Results of Primary Pterygium Surgery with Conjunctival Transposition Flap

Research Article

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Abstract

Purpose: To investigate the long term results of patients underwent primary pterygium surgery with conjunctival transposition flap method.

Material and Methods: Medical records of 27 patients who underwent pterygium surgery by conjunctival transposition flap were reviewed retrospectively. Patients age, gender, mean pterygium size, surgery time, postoperative complications, follow-up time and recurrence rate were evaluated.

Results: Mean pterygium size was 2.8 mm, mean surgery time was 15.9 minutes. Mean follow-up time was 72 months (67-82 months). Only 1 case (%3.7) of recurrence was observed in our series.

Conclusion: Conjunctival transposition flap technique in primary pterygium surgery is an effective method with low recurrence rate.

Keywords: Pterygium; Conjunctival Transposition Flap; Recurrence.

Introduction

Pterygium is a fibrovascular tissue originated from conjunctiva and extended to cornea [1]. Depending on the size of the pterygium it can cause ocular discomfort, irregular astigmatism, visual deterioration and cosmetic concern. The treatment is surgical removal. Bare sclera, primary closure, conjunctival autografting, transpositional flap, amniotic membrane transplantation, combination of antimetabolite usage are the surgical approaches [2-7].

Conjunctival flap techniques, including conjunctival transpositional flap, sliding conjunctival flap, bridging flap and mini-flap, are used in pterygium surgeries since 1940s [8-12]. Easy manipulation of the flap and low recurrence rates are some of the advantages of the flap techniques [13].

In this study we preferred conjunctival transposition flap in cases with primary pterygium and we aimed to document the long term follow-up results.

Material and Methods

Medical records of 27 consecutive patients who underwent primary pterygium surgery with conjunctival transposition flap technique between January 2009 and January 2011 were reviewed. Demographic data, pterygium size, surgery time, complications, follow-up time and recurrence rate were evaluated. This study followed the tenets of the Declaration of Helsinki and informed consent was obtained from all of the patients.

Pterygium size was evaluated biomicroscopically. Only nasally located pterygia cases were included in the study. The surgeries were done by the same surgeon (ADB) under local anesthesia. Subconjunctival anesthesia including lidocaine 20 mg/ml and epinephrine 0.0125 mg/ml was injected. The body of the pterygium was cut from the limbus by Westcott's scissors. The head of the pterygium was detached from the cornea and subconjunctival fibrous tissue was removed with crescent blade. Minimum amount of cauterization was applied on the sclera. The flap was created on inferomedial quadrant of the conjunctiva near the margin of the bare sclera (Figure 1). The flap was dissected

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Received: April 23, 2020

Accepted: July 13, 2020

Published: July 15, 2020

Citation: Melek Mutlu, Ayşe Dolar Bilge. Long - Term Results of Primary Pterygium Surgery with Conjunctival Transposition Flap. *Int J Ophthalmol Eye Res.* 2020;8(1):421-423.
doi: <http://dx.doi.org/10.19070/2332-290X-2000085>

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from the Tenon's capsule carefully, transposed to the defect area and separately sutured with 8.0 vicryl sutures to surrounding conjunctiva (Figure 2). Topical dexamethasone and tobramycin combination eye drop were prescribed to the patients 4 times a day for 4 weeks (Figure 3).

Results

The mean age of the patients was 57 years (39-70 years) and 7 of them were female, 20 of them were male. Mean pterygium size was 2,8 mm (2-3,5 mm) and mean surgery time was 15.9 minutes (13-23 minutes). Patients were controlled 1st day, 1st week, 1st and 6th month and then yearly after the surgery. Conjunctival, corneal and anterior chamber changes were recorded. Mean follow-up time was 72 months (67-82 months).

Early postoperative complications like hematoma, flap edema, dehiscence of flap were not seen any of the patients. Recurrence was defined as the occurrence of fibrovascular regrowth crossing the limbus and extended over the cornea. Only 1 case (3,7%) of recurrence was observed in our series during the follow-up. Recurrence of the pterygium was seen postoperative 4th month in the patient.

Discussion

Pterygium surgery success can be defined as postoperative good cosmesis and ocular surface with no recurrence in time. Recurrences usually occur within 6 months after the surgery [14]. Surgical technique, type of suture, antimetabolite usage, age of patient, environmental factors, type of pterygium or surgeon skills are possible factors affecting recurrence.

Recurrence rates after pterygium surgery are variable in the literature. Varssano et al., [15] reported 11.4% (the mean follow-up time 34 months) with conjunctival autograft method. One of the comparative study between limbal sliding graft, primary closure and amniotic membrane grafting reported recurrence rate 7%, 27% and 56% respectively (mean follow-up time 12 months) [16]. In our previous study comparing conjunctival autograft and transpositional flap technique done by the same surgeon, recurrence was observed in one case in each group during one year follow-up but the operation time was statistically longer in conjunctival autograft group [17]. In this study we showed no change in recurrence rate in conjunctival transposition flap group in long term follow-up (3.7%).

Figure 1.

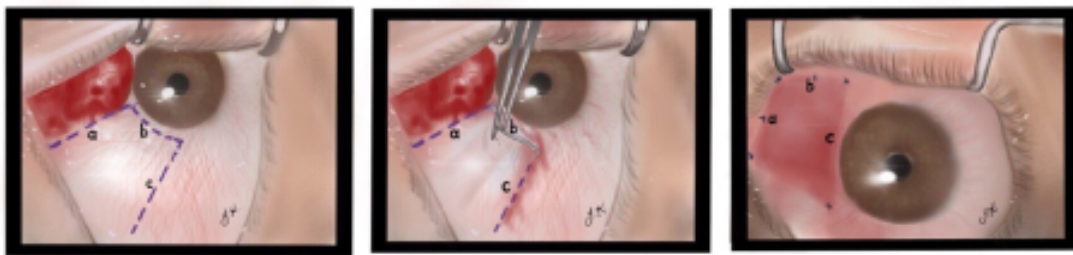
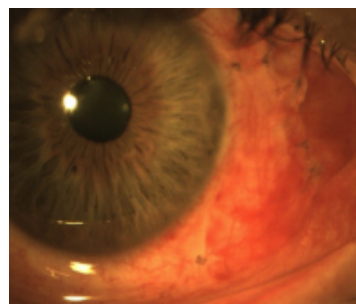


Figure 2.



Figure 3.



One of the large series with 913 eyes by Lei et al., documented 1.6% recurrence rate in one year after conjunctival pedunculated flap method [18]. Kim et al., [19] compared conjunctival rotation flap and conjunctival autograft and they showed that graft or flap edema was significantly higher in autograft group. This can be because of the preservation of vascular integrity higher in conjunctival flap method. But the recurrence rates were similar between the groups.

Preparing the conjunctival autograft takes a long time and orientation of the graft is important in terms of upside-down or limbal side position. Conjunctival scarring in donor site, incomplete coverage of the bare sclera, graft edema, graft loss, graft inversion are some of the disadvantages of autograft technique [20, 21]. Flap related problems such as flap dehiscence, flap edema or flap retraction were not seen our case series. Since taking graft from superior or inferior quadrants cause no difference in terms of recurrence we obtained the flap from the inferior quadrant for possible filtration surgery in the future.

Conclusion

Conjunctival transposition flap technique in primary pterygium surgery is very effective and less time consuming method with lower recurrence rates in long term follow-up. Transferring preserved vascular network by conjunctival flap leads rapid recovery and is another advantage. The technique is also very useful due to lack of graft related problems such as graft loss, orientation difficulties and postoperative graft edema.

Acknowledgement

The authors would like to extend thanks to medical art/illustrator Dr. Yeşim Kutlutürk for preparing figures.

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