

Pterygium Recurrence Prevention Utilizing Mitomycin C Washing, Case Series

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Abstract

Objective: To assess the effects of 0.20 mg of mitomycin C washing on the pterygium recurrence. **Methodology:** A total of 15 individuals were included in this observational retrospective analysis. They underwent pterygium surgery using 0.20 mg of mitomycin C and a graft. The postoperative care given to each group was the same. **Results:** There were no recurrences, with a P-value of 0.000. **Conclusion:** This case series indicates that just washing the bare sclera with MMC is effective against recurrence.

Keywords: Pterygium, Recurrence, Mitomycin C.

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INTRODUCTION

Susruta, an ophthalmologist, first characterized the pterygium about 1000 A.C. [1]. Contribution of environmental factors including UV light, a warm climate, and dusts, particularly cement dusts, and this association between cement dust and pterygium had been conducted by investigators [2]. Hill and Maske believed that this sickness was proliferating as opposed to degenerating [3]. Hereditary factors and vascular endothelial growth factor A (VEGFA) have recently been proposed as potential contributors [4].

Since there is currently no medical treatment for pterygium, the only option for treatment is surgical excision, which may result in recurrence, and numerous factors have been linked to this, including geography and skin color [5].

Conjunctival autografts were conducted recently in conjunction with 5-fluorouracil or MMC [6], but systemic absorption can happen when the dose is higher than 0.2 mg. 0.2 mg, even if left in the body for 60 seconds, was not found to be associated with systemic absorption; its half-life in plasma is approximately 20 minutes, according to Yulshi *et al.*, [7].

SUBJECTS AND METHODS

A total of 35 people were included in this observational retrospective analysis. The same surgeon performed each and every operation. The municipal

ethics commission has granted authorization and given its approval. After being negotiated about the method, each individual formally agreed and signed to participate in the study. The postoperative care given to each group was the same.

For the surgical treatment, 2% lidocaine was injected into the subtenon to achieve anesthesia. The surgery was carried out under local anesthesia. A crescent knife and scissors were used to cut the pterygium tissue from the cornea up to the base, and the bleeders were then cauterized. The conjunctiva was then torn apart, the tenon completely removed from the conjunctiva, starting from the free borders of the conjunctiva inward, and the bare sclera was freed from all tissues. The application of mitomycin C (MMC) involved the irrigation of the exposed sclera and the subconjunctival area using a 1 ml solution containing 0.2 mg of MMC, followed by immediate and extensive irrigation. Followed by a conjunctival autograft transplantation derived from the superior bulbar conjunctiva to cover the bare sclera and fixed utilizing 8-0 vicryl.

RESULT

This study encompassed a collective of 15 eyes from 10 patients. The age range across all groups was from 18 to 33, with a mean of 25.5. Among them, 9 were males, while 6 were females.

During the postoperative period, each patient was monitored for duration of five years. The recurrence of fibrovascular growth at the prior pterygium site was assessed with regular slit-lamp examinations conducted during every visit. Overall, no recurrence rate was observed, with a p-value of 0.000.

DISCUSSION

The most frequently encountered postoperative complication for pterygium worldwide is recurrence, which often requires multiple interventions. Each intervention can result in scarring, which may eventually lead to fibrosis of the conjunctival fornices, a condition known as symblepharon. In a study he conducted, Mohammed I [8], noticed this. The efficacy of combining conjunctival autograft with mitomycin C (MMC) in reducing recurrence has been established in the study conducted by Ha SW *et al.*, [9]. Cheng HC *et al.*, examined the effects of a lower dose (0.2 mg/ml) for a duration of 30 seconds, which is not considered optimal for preventing recurrence [10]. However, OOA found that just washing the bare area is not optimal for recurrence; they used a larger number but a shorter duration. Sebban A and Hirst LW conducted a study that demonstrated an approximate recurrence incidence of 12–13% in individuals who underwent a conjunctival autograft procedure with 0.2 mg MMC [11]. In our investigation, the administration of a 0.2 mg/mL washing dosage of MMC in conjunction with graft material resulted in no recurrence. Previously, the reverse findings were conducted by Lotfy A *et al.*, [12], and [6]. Also, Gris *et al.*, observed no recurrence [13], and Akura *et al.*, reported no recurrences within a follow-up period ranging from 6 to 32 months [14]. Conversely, Martins *et al.*, [4], emphasized that augmenting the dosage and lengthening the period of exposure to MMC leads to a drop in recurrence rates but an increase in the occurrence of complications.

Consequently, it is plausible to consider just washing with MMC as a potential method for establishing a standard technique for MMC administration. In order to establish the validity of this claim, it is important to conduct a comprehensive analysis that encompasses a larger sample size and an extended duration of follow-up for each individual participant.

CONCLUSION

This case series highlights that a shorter duration of MMC application, specifically limited to washing, is linked to no recurrence.

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