

# Corneal Melt with Perforation Following Topical Mitomycin-C Application in Pterygium Excision

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## Abstract

We report a case of corneal melt with perforation due to Mitomycin-C application during Pterygium excision. A 50-year-old male presented with sudden gross diminution of vision and pain in the left eye since one day. He underwent primary Pterygium excision using a bare sclera technique combined with application of Mitomycin-C to the scleral bed intra-operatively in the left eye 40 days back elsewhere. At the site of pterygium head excision, the cornea showed a 3 × 3 mm perforation with iris prolapse through it. Patient was diagnosed as Corneal perforation post Mitomycin-C application and an immediate full thickness corneal patch grafting was performed in the left eye.

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**Keywords:** Mitomycin-C, corneal melt, corneal perforation, corneal patch graft, pterygium excision, bare sclera technique

## Case Report

A 50-year-old male presented with sudden gross diminution of vision and pain in the left eye since one day. He underwent primary Pterygium excision using a bare sclera technique combined with application of Mitomycin-C to the scleral bed intra-operatively in the left eye 40 days back elsewhere. A history of eye rubbing was given by the patient after which he developed the current symptoms. On examination, the visual acuity was perception of light with accurate projection of rays. At the site of pterygium head excision, the cornea showed a 3 × 3 mm perforation with iris prolapse through it (Figure 1). The rest of the cornea was edematous and descemet membrane folds were present. No infiltrate or hypopyon were seen. The anterior chamber was collapsed. Patient was diagnosed as Corneal perforation post Mitomycin-C application. An immediate full thickness corneal patch grafting was performed in the left eye. The prolapsed iris tissue was excised and a 4 × 4 mm full thickness corneal patch graft was taken and sutured accordingly (Figure 2). The anterior chamber was formed. Patient was prescribed a combination of 0.1 % dexamethasone and 0.5 % moxifloxacin drops 6 times per day and lubricants in the left eye. The graft remained clear with uncorrected visual acuity of 6/24 Snellen's equivalent at one month follow up (Figure 3).

## Discussion

Pterygium is a proliferative epithelial hyperplasia with a fibrovascular growth of the subconjunctival tissue which originates at the corneo-conjunctival junction and grows onto the cornea. Surgical excision is effective for treatment of pterygium but recurrence is common. Use of Mitomycin-C has been advocated along with surgical removal to reduce the recurrence of pterygium.<sup>1</sup> Mitomycin-C is an antimetabolite isolated from *Streptomyces caespitosus* which inhibits DNA synthesis.<sup>1</sup> However, complications like corneal edema, corneal melt, corneal perforation, iritis,

sudden onset mature cataract, secondary glaucoma and scleral calcification have been associated with its use.<sup>2</sup> The reported interval between the occurrence of corneoscleral melt and resection of pterygium with topical application of Mitomycin-C varies between eight days and 16 years.<sup>3,4,5</sup> In our case, we have observed a corneal melt 40 days after use of topical Mitomycin-C. In our patient, Mitomycin-C might have resulted in corneal melt and severe corneal thinning. A trivial trauma like eye rubbing might have caused perforation of the thinned-out cornea which explains the sudden onset of symptoms. Therefore Mitomycin-C should be used judiciously after pterygium excision. Corneal melt after usage of Mitomycin-C should be identified early and treated accordingly. If the melt leads to a perforation, like in our case, immediate patch grafting is indicated to restore the corneal integrity and prevent visual disability.



**Figure 1:** Cornea showing a 3 × 3 mm perforation with iris prolapse through it at the site of pterygium head excision. Bare sclera seen at 7 – 8 o'clock near the limbus indicating site of pterygium excision.

References

1. Mahar PS, Nwokora GE. Role of mitomycin C in pterygium surgery. *Br J Ophthalmol* 1993; 77(7): 4335.
2. Rubinfeld RS, Pfister RR, Stein RM, Foster CS, Martin NF, Stoleru S, et al. Serious Complications of Topical Mitomycin C after Pterygium Surgery. *Ophthalmology* 99(11):1647-54.
3. Menghini M, Watson SL, Bosch MM. Corneal melting two weeks after pterygium excision with topical mitomycin C: successfully treated with lamellar keratoplasty and amnion membrane transplantation. *Case Rep Ophthalmol* 2012; 3(1):24-9.
4. Ti SE, Tan DT. Tectonic corneal lamellar grafting for severe scleral melting after pterygium surgery. *Ophthalmology* 2003; 110(6): 1126-36.
5. Wan Norliza WM, Raihan IS, Azwa JA, Ibrahim M. Scleral melting 16 years after pterygium excision with topical Mitomycin C adjuvant therapy. *Cont Lens Anterior Eye* 2006; 29(4): 165-7.

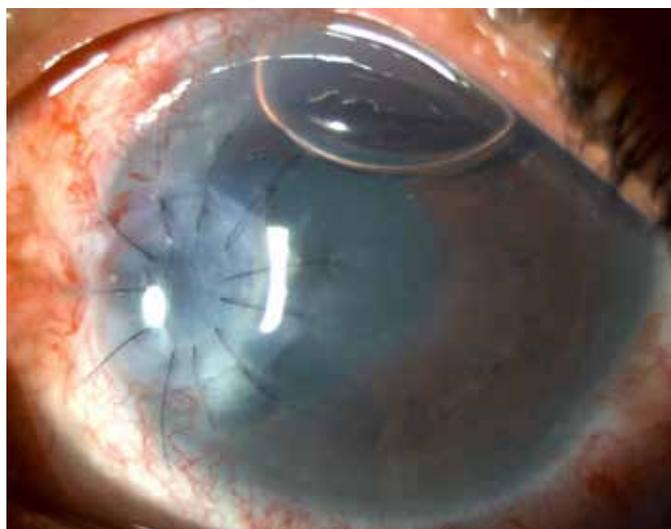


Figure 2: First post-operative day of full thickness corneal patch grafting showing a 4 x 4 mm graft and a well formed anterior chamber.

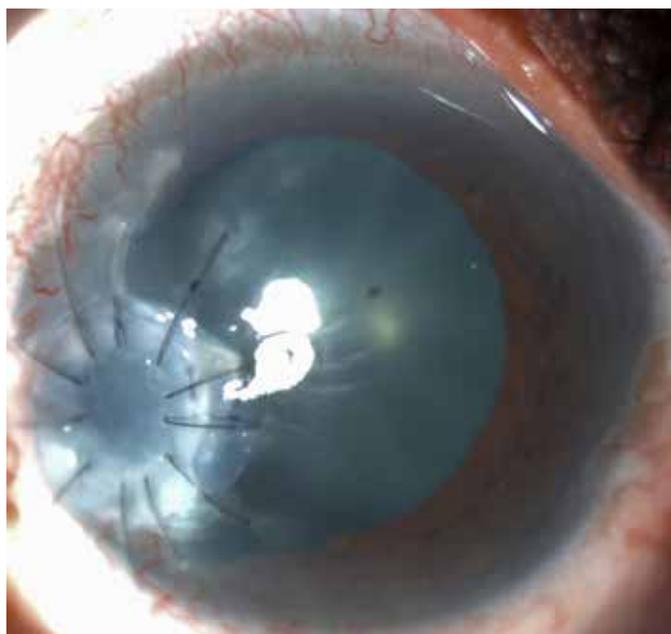


Figure 3: One month post corneal patch grafting showing a clear and healthy graft.

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