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Ophthalmology

Corneal Perforation after Excision of Pterygium and Instillation of Mitomycin C: About an Observation

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Abstract | **Case Report**

Pterygium is a common eye condition that predominates in warm, dry areas. It is a benign condition whose treatment is essentially surgical especially for advanced stages. But it is characterized by its tendency to recurrence from where the interest of the use of adjuvant treatments namely mitomycin C. Although this is relatively harmless serious and potentially blinding complications can occur. The authors report one case of complicated pterygium surgery with late perforation.

Keywords: Pterygium, pterygium surgery, Corneal Perforation, Mitomycin C.

INTRODUCTION

Pterygium is a relatively common pathology [1] that predominates in hot and dry areas, namely the African continent [2]. It corresponds to a benign mass of fleshy tissue of conjunctival origin progressively invading the cornea. It can acquire significant proportions causing visual discomfort [3] requiring surgical treatment. However, recurrence remains frequent. Indeed, some therapeutic devices have reduced the incidence of these recurrences, including the use of mitomycin C in eye drops in immediate post-operative. Although its use is without significant iatrogenic risk, cases of exceptional perforations have been reported in the literature. Their prognosis is reserved and their treatment is often difficult.

CASE REPORTS

This is a 60-year-old patient who was operated on for a recurrence of an invading pterygium of the left eye with conjunctival auto graft. He was put on mitomycin C at 0.02% in eye drops at 1 drop 3 times/day for 2 weeks, then a drop 2 times/day for the 3rd week, and finally 1 drop/day for the last week. The patient reported decreased visual acuity with redness and lachrymation 45 days after discontinuation of mitomycin C. 7 days later, the patient consulted the emergency department for no improvement in symptomatology. The clinical examination at intake noted 8/10th visual acuity in the right eye and 2/10 in the left eye. At the slit lamp, we find at the left eye a corneal perforation around 7am with a hernia of the iris and a slightly ovalized pupil. The introduction of a therapeutic lens proved insufficient, and a conjunctival recovery was used. The evolution was favorable with a filling of the perforation and maintenance of satisfactory integrity of the eyeball. However, the patient maintained a 2/10 visual acuity related to irregular oblique astigmatism and central corneal dystrophy. We then proposed the patient for an optical vision keratoplasty.

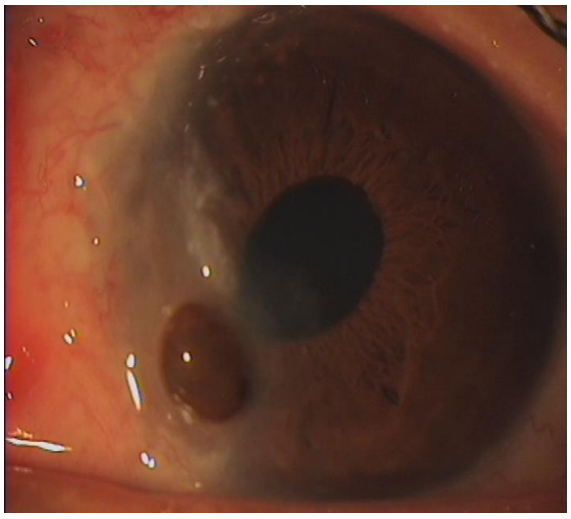

Figure 1: Corneal perforation at 07 am

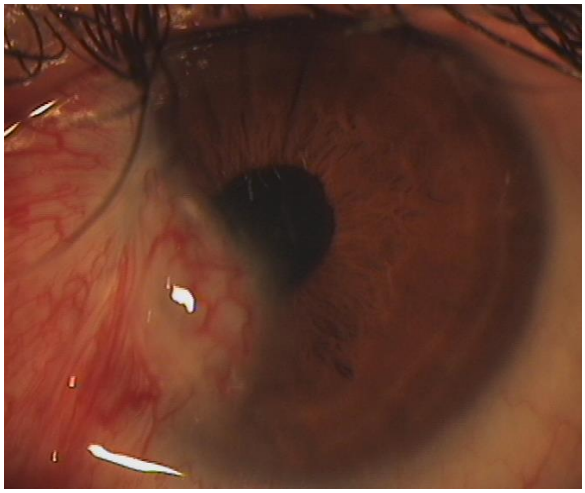

Figure 2: conjunctival covering

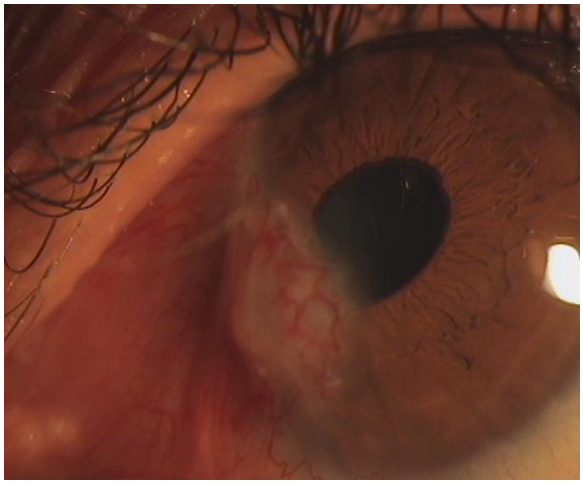

Figure 3: **clinical appearance after 3 months**

DISCUSSION

The use of mitomycin C in ophthalmology was performed in the treatment of pterygium before its extension to glaucoma. This treatment inhibits fibrovascular proliferation, preventing recurrence [8].

Mitomycin C is an antimetabolite that inhibits DNA replication by forming covalent bonds with guanosine residues in DNA. It has an antiproliferative action on fibroblasts and collagen synthesis.

It's an antimitotic antibiotic. This product prevents the revascularization of the scleral denudation zone by inhibiting hair proliferation.

Risk factors for corneal perforation concerning the use of mitomycin C in the treatment of pterygium have been widely discussed by Kassir [J Fr Ophthalmol. 1999 Aug-Sep; 22(7):776-9. [Corneal perforation after excision of pterygium and use of 0.02% mitomycin eyedrops]. [Article in French] Kassir MS] and are, as a reminder, represented essentially by:

The concentration of the active ingredient, indeed the best compromise efficiency

Contact time: The longer the time, the deeper the product

Washing the ocular surface the more abundant the washing the less the product will make damage.

The condition of the ocular surface: A damaged surface is more likely to puncture.

Fine pachymetry.

Deep scraping of pterygium.

The recurrence of the instillation plus the frequency is high and durable in time plus there is a risk of perforation.

Mitomycin C: Mitomycin C is used at 0.2 to 0.4 mg/ml (0.02 to 0.04%) with three to six injections per day for two to four weeks after surgical treatment.

Conjunctival irritation, punctuated keratitis, and lachrymation were observed with this product but at higher doses. Some authors, on the other hand, talk about severe complications following the instillation of mitomycin C even at low dose type of secondary glaucoma, corneal edema, corneal perforation, and others [9].

CONCLUSION

The removal of pterygion with the application of mitomycin C and corneal limbus self greff became the adjunctive treatment in the prevention of recurrence of pterygion; the use of mitomycin C, after simple excision of pterygion, compared to conjunctival self-healing, offers an ease of realization and a saving of time. However, it may expose to complications in particular the risk of perforation related to the misuse of mitomycin. Most authors agree that Mitomycin remains a good adjunct to the surgical treatment of primary or recurrent pterygium [9].

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