

Scleral Necrosis after Pterygium Excision: A case report

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Abstract: The aim of the study was to document the clinical course of the scleral necrosis after pterygium excision with topical Mitomycin-C eye drop. A male patient aged 35 years presented with severe pain, redness, watering and loss of vision in the left eye. Examination revealed scleral necrosis with uveal tissue prolapse. B-scan ultrasonography showed Endophthalmitis. The eye was enucleated and Histopathological examination and sclera thickness measurement were done. As there was no vision the eye ball was enucleated. Histopathological examination showed infiltration with chronic inflammatory cells. Scleral measurement was found to be normal. Similar to this case many cases of sclera necrosis have been reported in the literature. Conclusion-Knowing the serious complication MMC should not be used in all cases.

Keywords: Pterygium, sclera, MMC.

INTRODUCTION

Pterygium is a degenerative condition characterized by sub-conjunctival fibrovascular growth creeping over the cornea. Pterygium can be treated by different surgical techniques like

Pterygium excision with cautery, bare sclera method, intra/post-operative use of antimetabolite drugs, beta-radiation, grafting, Argon Laser.

Pterygium is thought to be a simple and safe surgical procedure, but may be complicated and can be destructive. Scleral necrosis is a rare and dangerous complication after pterygium excision. It might not only threaten vision but also cause significant ocular morbidity and vary rarely one may lose his or her eye.

Here we report a case of scleral necrosis which developed two months after pterygium excision presented to us in RIO Guwahati on 1-12-2007

The aim of the case report was to document the clinical course of the scleral necrosis which developed two months after pterygium excision with topical MMC eye drop in the post-operative period.

A 35 year old male patient presented to us with severe pain, photophobia, redness, watering and loss of vision. On clinical examination a big area of scleral necrosis (melt) extending to adjacent cornea with a small perforation with bulging of uveal tissue were detected. There were associated conjunctival and episcleral hyperemia, and cataract. There were no P/L and P/R.

CASE REPORT



Fig-1&2: shows sclera necrosis with corneal perforation with uveal tissue prolapse. B scan ultrasonography revealed Endophthalmitis.

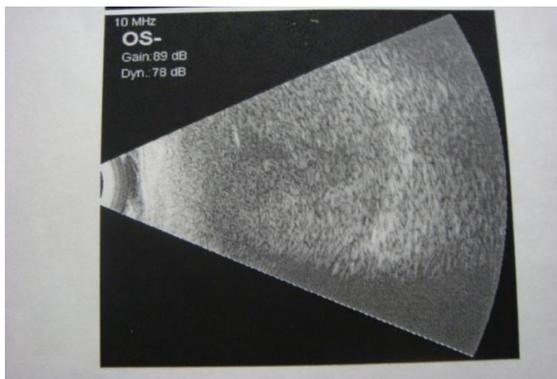


Fig-3: B scan ultrasonography revealed Endophthalmitis.

He had history of pterygium excision 2 months back with application of Mitomycin-c e/d in the dose of one drop 3 times daily for 2 weeks in the post operative period. Operation was done in a peripheral hospital and the strength of Mitomycin -c was not mentioned in the prescription



Fig-4: Histopathology shows inflammatory cells

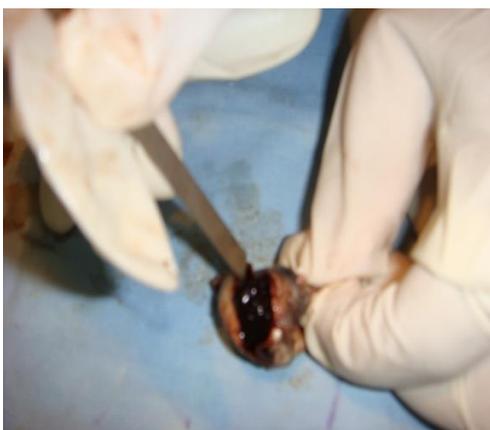


Fig-5: Measurement of scleral thickness

DISCUSSION

Scleral necrosis was first reported by Arentsen et al in 1976 [1]. After that more and more reports are gathering from all over the world.

He had developed scleral necrosis 2 months after surgery for which he was treated locally as per history. A thorough clinical evaluation and Laboratory investigations were done to exclude some of the systemic diseases which could be the possible causes of scleral necrosis. A thorough medical check up was done. An informed written consent was obtained from the patient for the case report.

RESULTS

As the vision was completely lost and the patient was having agonizing pain, decision to enucleate the eye was taken to relieve the patient of his agony.

Histopathological examination of the tissue showed-infiltration with chronic inflammatory cells mostly lymphocytes and plasma cells with areas of haemorrhage and necrosis.

Scleral thickness was measured and it was found to be normal.

There are various causes of S.N. They are – various ocular surgeries [1, 2] which include Pterygium excision and Pterygium excision with bare sclera method , cautery , intra/post operative use of antimetabolite drugs , beta irradiation, grafting , argon laser and other ocular surgeries [2, 3] like RD surgeries, cataract , glaucoma, strabismus surgery etc. Systemic diseases [3] like Rh arthritis and collagen vascular diseases and repeated surgery for recurrent pterygium and two or more surgery in one eye [2] can also cause scleral necrosis

In our case report this patient underwent pterygium excision surgery with topical Mitomycin-C eye drop in the dose of one drop 3 times daily in the post-operative period for two weeks two months back.

He was cleared of all possible systemic diseases by thorough medical check-up and relevant investigations. He was neither hypertensive nor diabetic, because these diseases have profound effect on vascular haemostasis.

Old and repeated surgery make the tissue vulnerable for ischaemic damage. Age of the patient is also a factor. Systemic disease like Rh. Arthritis and other collagen vascular diseases may cause S. N. The basic pathology is immune vasculitis. Latent period between the Pterygium excision with post op. topical MMC and onset of S.N. in our case was 2 months.

Dr B.C. Lavinga et al reported S.N. 10 months to 23 months[1]. The latent period from surgery to onset of S.N. varies from 1st post operative day to 40 years [3]. Saifuddin S. *et al* reported scleral necrosis developed 14 months to 3 years after Pt excision with

Mitomycin C [4]. There are many reports of S.N. after Pt excision with topical MMC [5-8].

MMC is an anti-metabolite agent . It inhibits synthesis of DNA, RNA, and Protein. Scleral thinning after MMC instillation maybe due to suppression of development of Collagen fibres. It inhibits the formation of granulation tissue and growth of new vessel formation on the wound surface. Recently many studies have reported efficacy of MMC in minimizing recurrences of surgically excised Pt. when used as an adjunctive therapy [5].

The method of use and dose is not yet standardized but different reports indicate dosages ranging from 0.2 to 1 mg/ml [5-7]. Recently some investigators have evaluated the safety and efficacy of low dose of MMC (0.02%). Most Ophthalmologists believe that a single intra-operative exposure of MMC would reduce the complication rate of MMC eye drop regime than post-operative use of MMC.

CONCLUSIONS

Our patient was young and healthy and had no ocular and systemic disease. So from history and clinical evaluation we concluded that the scleral necrosis developed 2 months after Pt. excision with topical MMC was presumed to be due to two reasons- (1) cautary (2) topical post op. use of MMC.

Knowing the serious complication, MMC should not be used in all cases. It should be used in aggressive and large vascularised pterygium.

All ophthalmologists should be aware of the possibility of vision threatening complication and avoid routine and broad use of MMC in all fields.

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