

Role of mitomycin-C in pterygium surgery, with different modes of its application : A comparative study

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Abstract

Recurrence rate of pterygia after surgical removal has been documented to be varying from 5.3% to 69%. Role of mitomycin-C as adjunctive therapy with surgical excision of pterygium in reducing its recurrence rate has been worked out in several studies. In the present prospective and randomized study the various modes of application of this antimitotic agent have been worked out and compared in terms of success achieved by each of them. 67 eyes of 46 patients were operated for primary (46 eyes) recurrent pterygium (21 eyes) overall success rate of 84.8% and 66.7% was achieved in cases with primary and recurrent pterygium respectively. Application of drug as topical drops postoperatively yielded best results in primary pterygium group with 90% success rate and followed by sponge technique of surface application intraoperatively (88.9% success rate). Among patients with recurrent pterygium sponge technique emerged out to be the best one (75% success rate). Various significant complications like delayed wound healing, delayed conjunctival neovascularisation and symblephron formation were noticed in three, two and one case respectively.

Key words : Primary pterygium, recurrent pterygium, sponge method, subconjunctival inj. technique, topical drops.

Introduction

Antimitotics are gaining popularity as adjunctive therapy in the treatment of pterygium by its surgical excision. They are supposed to be effective in bringing down the recurrence rate of pterygium after its surgical excision which has been accounted to be as high as 5.3% to 69% in different studies. In the present study the role of Mitomycin - C has been studied extensively.

Mitomycin - C is an antibiotic isolated from broth of *Streptomyces caespitosus*. Its antitumour effect is attributed to inhibition of DNA replication leading to cell death. Its antiproliferative effect is 100 times as potent as that of 5-FU.

Material and Methods

The present study was conducted on patients from outdoor clinics and camps organised by the Departments of Ophthalmology, BRD medical college Gorakhpur and MGIMS Sevagram, Wardha.

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Specially contributed to "The Antiseptic"
Vol. 95 No. 11 P : 369 - 370

67 eyes of the 46 patients were included in our study, of which 21 patients had bilateral involvement. Two separate groups were made with primary pterygium in one (Group A) and cases with recurrence ie recurrent pterygium in the other group (Group B). Each group was subdivided into three sets in a masked fashion. First set received Mitomycin - C (MMC) through application by sponge soaked in 0.5 mg/ml (0.05%) MMC kept on bare sclera for 3 minutes intraoperatively followed by copious amount of irrigation by normal saline. In the second set MMC was given intraoperatively in form of subconjunctival injections 0.1cc in strength of 0.5 mg/ml (0.05%) at the site of surgery. In the third set mode of administration was topical drops 0.2 mg/ml (0.02%) used postoperatively twice daily for 5 days. All the cases were operated by D'Ombrain's technique. The cases were followed up for 5 to 9 months postoperatively and the results were evaluated in terms of success rates in different subgroups and also taking all of them together. Recurrence was considered as having taken place when a fibrovascular growth similar to that present preoperatively, crossing the corneoscleral limbus and extending into the

cornea for any distance, had occurred. The various complications encountered during the followup period were recorded and treated when required.

Results

In the present study 67 eyes of 46 patients were operated for primary (Group A) and recurrent pterygium (Group B cases). Success rate as prevention of recurrence during a follow up period of 5-9 months in primary and recurrent pterygium was 84.8% and 66.7% respectively (over all 79.1%). The use of topical drop as method of drug application appears to be the best among cases with primary pterygium. Sponge surface application technique worked most efficiently among cases with recurrent pterygium.

Discussion

The outcome of the study was evaluated after a followup of 5 to 9 months postoperatively. Overall success rate in the Group A, i.e. with primary pterygium was 84.8% and the same in group B ie with recurrent pterygium was only 66.7%. When success rate was accounted for the sponge method of drug application, it was found to be 88.9% in Group A cases and 75% in Group B cases. With relatively lower concentration of the drug ie, 0.2 mg/ml (0.02%) applied for 3 minutes (0.5 mg/ml ie