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Brief Communication

Simple Technique For The Management Of A Cataract Surgery Wound Site Scleral Abscess and Endophthalmitis

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Abstract

To report satisfactory outcome in a patient with scleral abscess at scleral incision cataract surgery wound site, along with endophthalmitis. Simple adjunctive measures enhance the success of conservative management for such cases. Method: Seventy-year-old female was diagnosed as scleral abscess with acute post operative endophthalmitis after one week of an uneventful scleral incision cataract surgery. The patient was managed with surgical wound debridement adjunctive to topical, intravitreal and systemic antibiotics. Results: Satisfactory final best corrected visual acuity of 20/40 was achieved at the last follow-up at 20 weeks. Conclusion: Post cataract surgery scleral abscess and endophthalmitis pose a significant management challenge. This condition may respond favourably with adjunctive meticulous surgical wound debridement.

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Keywords: *scleral abscess, SICS, endophthalmitis*

Introduction

Infectious scleritis or scleral abscess in association with endophthalmitis after cataract surgery poses a significant management challenge due to the co-existence of two devastating ocular infections. Although the incidence of post-operative endophthalmitis has significantly reduced due to judicious use of povidine iodine solution to clean eyelashes and povidine eyedrops in conjunctival cul-de-sac before cataract surgeries[1], in scleral incision cataract surgery, the excessive cautery usage, mechanical wound trauma and improper conjunctival coverage at the end of surgery poses significant threat to the integrity of the wound and predispose for postoperative infections. Few case reports of post cataract surgery scleral wound infection have been mentioned in literature.[2,3] Hence, management of such clinical condition along with endophthalmitis becomes a great challenge as both infectious conditions are sight and globe threatening. We managed our case with early surgical intervention which proved to be of adjunctive support to the medical management.

Case Report

A 70-year-old female patient underwent an uneventful cataract surgery via superior scleral incision. The posterior chamber intraocular lens was implanted in the capsular bag after removing the mature cataract. She presented at one week follow up with pain, redness, watering and marked diminution of vision in the left operated eye. On examination, her visual acuity was hand movements close to face with accurate light projection. There was marked conjunctival congestion, corneal edema, anterior chamber cells (4+), hypopyon (2 mm), and fibrin in pupillary area. Mild red glow was visible on retroillumination. On lifting the upper eyelid, a yellowish-white raised, irregular, necrotic scleral lesion of 3mmx4mm was seen at the scleral incision site (Figure 1). No uveal tissue was visible at the site. Clinically, we kept the diagnosis of postoperative scleral abscess with endophthalmitis. B-scan ultrasonography revealed echo-

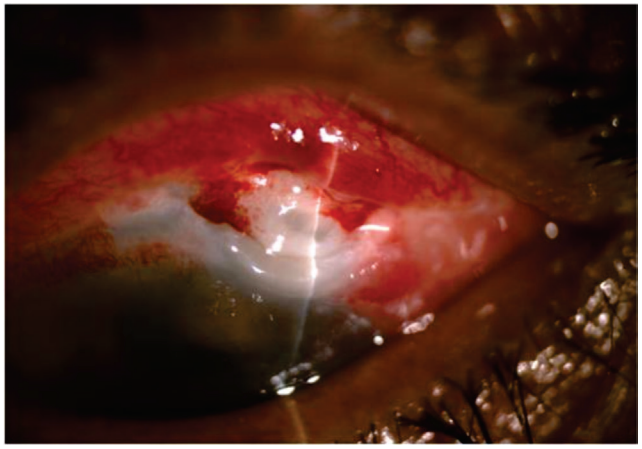

Figure 1: *Slitlamp photograph showing scleral wound infection with abscess formation*

free vitreous cavity with normal retino-choroid thickness. Under aseptic conditions, the scleral and conjunctival swab was sent for microbiological evaluation which revealed gram positive, coagulase positive cocci. KOH mount did not reveal any fungal hyphae. The patient was started on topical 0.5% moxifloxacin 1 hourly, 1.4% tobramycin 1 hourly and topical cycloplegic agents. The patient was started on systemic antibiotics ceftazidime and gentamycin. Intravitreal injection of ceftazidime (2.25mg/0.1ml) and vancomycin (1mg/0.1ml) was given under all aseptic conditions. Surgical debridement of the scleral abscess was planned and careful removal of sloughed necrotic area of the sclera was done with forceps and cotton-tip applicators. No edge freshening was attempted to avoid any inadvertent perforation or extension of the infection. After debridement, the area was washed with diluted povidine iodine solution. Intracameral injection of vancomycin (1mg/0.1ml) was given at the end of the procedure.

At day 3 after adjunctive debridement procedure, the clinical features improved and the extent of scleral abscess reduced significantly. Visual acuity improved to finger counting at one feet. The anterior chamber activity reduced

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and the hypopyon resolved. Corneal edema and pupillary membrane also reduced. At 12 weeks followup, the non-resolving fibrous membrane and subsequent occlusio pupillae persisted which were managed with anterior membranectomy and sphincterotomy. The patient achieved best corrected final visual acuity of 20/40 after 4 weeks of membranectomy with slit lamp examination showing clear cornea, resolved fibrous membrane and healing of sclera (Figure 2).

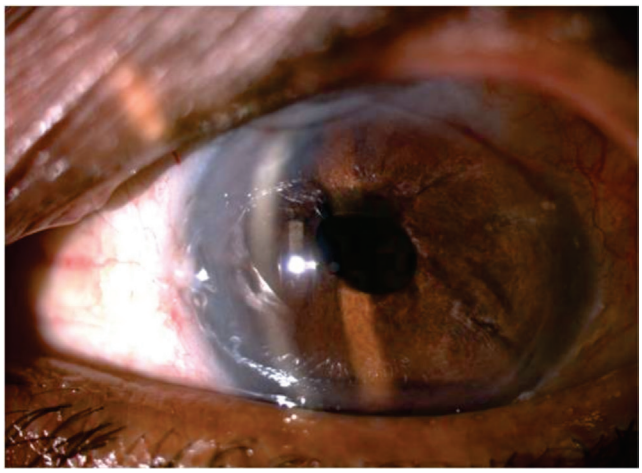

Figure 2: *Final postoperative slitlamp photograph after anterior membranectomy showing resolved scleral wound infection*

Discussion

Small incision cataract surgery by superior scleral approach is a preferred surgical modality at a busy surgical setup. The chances of wound infection and endophthalmitis are lesser with a superior approach as compared to the temporal approach as the wound site remain covered by upper eyelid with less atmospheric exposure of the bare wound.[2] As compared to the corneal wounds where the hydration of arranged lamellae leads to tunnel sealing, in scleral wounds, a potential space exists between the internal and external flaps of scleral tunnel. This may potentially lead to the infection nidus formation leading to formation of an abscess.[3] Moreover, previous ocular surgery, trauma and topical steroids use are possible risk factors for scleral infection.[4]

As the scleral infections responds poorly to conservative management (topical and oral antibiotics) due to poor drug penetration into the avascular scleral tissue, medical treatment alone is not sufficient for adequate treatment of scleral abscess.[5] The causative organisms remain trapped inside the intrascleral collagen lamellae for long and poor drug penetration into the scleral layer guards them of the antibiotics.[6] This warrants an additional treatment in the form of surgical debridement. This may improve the clinical outcome in most cases of scleral abscess as happened in our case, thus preventing active disease progression leading to deeper penetration and need for evisceration, as shown by various authors.[6,7] Surgical exploration of abscess cavity along with systemic and topical antimicrobial therapy yields superior results.[7,8] Surgical debridement not only facilitates penetration of antibiotic but also debulks the infected scleral tissue. Our patient presented with staphylococcal scleral abscess which was managed with surgical debridement and aggressive conservative therapy. We conclude that post surgical wound infection with scleral abscess formation can be managed successfully if detected early. With careful wound debridement along with topical, systemic and local antibiotics, early resolution of symptoms and desirable ocular response can be elicited avoiding the serious complications.

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