Case Report

Posttraumatic *Sphingomonas paucimobilis* Endophthalmitis

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A rare case of *Sphingomonas paucimobilis* endophthalmitis secondary to a penetrating globe injury with a retained intraocular foreign body is presented. A 30-year-old man presented with severe pain following a penetrating left eye injury. Visual acuity (VA) was 6/120. Slit-lamp examination revealed perforation of the temporal cornea and iris, hypopyon, and a fibrinous membrane covering the pupil. Ultrasonography showed dense vitreous infiltration and an orbital CT-scan confirmed the presence of a metallic foreign body in the vitreous cavity. Topical and systemic therapy were initiated. Pars-plana vitrectomy combined with phacoemulsification was performed in order to remove the foreign body; vitreous samples were acquired and *Sphingomonas paucimobilis*, sensitive to ceftazidime, was identified. To the best of our knowledge, this is the first report of *Sphingomonas paucimobilis* endophthalmitis following penetrating ocular injury. In this case, *Sphingomonas paucimobilis* was not resistant to antibiotics. This allowed for a good healing response following vitrectomy despite the fact that long-term retinal complications resulted in low VA.

1. Introduction

Sphingomonas paucimobilis is an aerobic Gram-negative soil bacillus that can be isolated in a variety of environments. A number of *Sphingomonas* species, especially *S. paucimobilis*, may be commonly detected in hospital equipment such as temperature probes, humidifiers, bedside water containers, and sinks.

This is an interventional case report of a culture-proven case of *Sphingomonas paucimobilis* endophthalmitis due to a penetrating globe injury with a retained intraocular foreign body (IOFB).

2. Case Report

A 30-year-old-man presented with a visual acuity (VA) of 6/120 and severe ocular pain following a penetrating left eye injury. Slit-lamp examination revealed perforation of the

temporal cornea and iris; in the anterior chamber, there was hypopyon and a fibrinous membrane covering the pupil. Ultrasonography showed dense vitreous infiltration while a computerized tomography (CT) orbital scan confirmed the presence of a metallic IOFB in the vitreous cavity (Figure 1). Ophthalmic and systemic treatment were initiated (vancomycin drops and amikacin drops every 2 hours, atropine 1% twice daily, intravenous vancomycin 1 g three times daily, and intravenous amikacin 750 mg twice daily). The IOFB was removed with a pars-plana vitrectomy combined with phacoemulsification and undiluted vitreous specimens were sent for laboratory testing (Figure 2). An oxidase positive, Gram-negative aerobic bacterium with yellow pigmented colonies was isolated. *Sphingomonas paucimobilis* was identified and found to be sensitive to aminoglycosides, tetracycline, chloramphenicol, and ceftazidime. Despite the initially excellent response (VA: 6/9) six months postoperatively, eight months postoperatively, a stage 3 macular hole was observed as well as

FIGURE 1: CT-scan depicting an intraocular foreign body in the left eye.

FIGURE 2: Color fundus picture depicting endophthalmitis.

severe VA deterioration. A second vitrectomy was performed, but VA remained low over the following 24 months despite macular hole closure.

3. Discussion

This is the first report of *Sphingomonas paucimobilis* endophthalmitis, a rare ocular infection caused by an environmental bacterium of low virulence, following penetrating ocular injury [1, 2]. Two more reports of *Sphingomonas paucimobilis* endophthalmitis following uneventful phacoemulsification have been reported in the literature. According to the former report, the bacterium was resistant to ceftazidime [3, 4], while, in the latter report, endophthalmitis occurred three months postoperatively. The patient was successfully managed with vitrectomy without an improvement in visual acuity [5].

In our case, in contrast to previous reports, *Sphingomonas paucimobilis* was not resistant to antibiotics. Nevertheless, pars-plana vitrectomy was performed as an immediate management option in order to avoid long-term complications. This allowed for a satisfactory healing response despite the fact that retinal complications eventually led to low postoperative visual recovery.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

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