

Ocular Fishhook Injuries

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Summary

Ocular fishhook injuries are rare, yet potentially vision threatening as complications such as corneal scarring, retinal detachment and endophthalmitis may result. The surgical management of these cases is challenging due to the construction of barbed fishhooks.

Two cases of ocular fishhook injuries over a period of 5 years in Kuala Lumpur Hospital are reported.

Key Words: Ocular injuries, Fishhook injuries

Introduction

Many Malaysians enjoy fishing as a recreational past time and are at risk of accidental fishhook injuries. However, ocular fishhook injuries are rare. Surgical management of these cases is challenging as the removal of the barb can potentially create more damage to ocular tissue if not extracted correctly. In addition, potentially vision-threatening complications such as corneal scarring, retinal detachment and endophthalmitis can occur in spite of successful removal of these fishhooks. Between 1995 - 1999, 2 cases of ocular fishhook injuries were admitted to Kuala Lumpur Hospital.

Case Report 1

A 48 year old Malay woman presented to the Ophthalmology Department, Kuala Lumpur Hospital, with a fishhook in her eye and the worm still attached (Figure 1). This occurred as she was placing her rod on the ground while she was fishing that same day.

Vision in her right eye was "counting fingers at one foot". The entry point of the hook was at the limbal area, at the 3 o'clock position and the

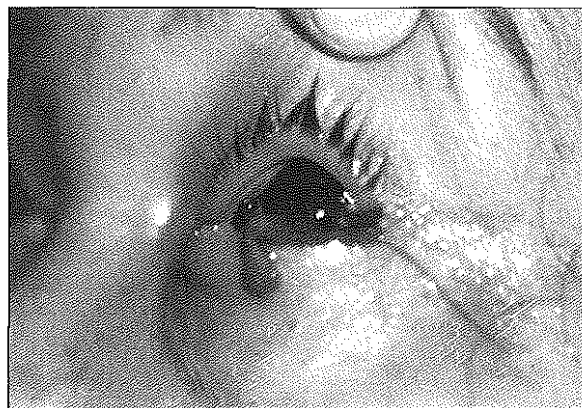


Fig. 1: Fishhook in eye with worm still attached!

barb was embedded in the central corneal stromal area. The anterior chamber was shallow and the lens cataractous. (Figure 2) Left eye findings were essentially normal. She was given intravenous cloxacillin and gentamicin prophylactically. Removal of the fishhook was performed 4 hours after presentation under general anaesthesia. A radial incision was made over the barb of the fishhook in order to release it from the corneal stroma. The limbal wound

was extended and the fishhook backed out through the limbal wound. The corneal and limbal wounds were sutured with nylon 10/0 and the anterior chamber was reformed. The worm from the fishhook was removed and sent for culture and sensitivity.

Post operatively she was started on topical gentamicin, betamethasone, homatropine and indomethacin. On the third post operative day, the culture of the worm grew *Acinetobacter*, which was sensitive to gentamicin, cefoperazone and cefotaxime. She was discharged on that day. One week post operatively vision in that eye had improved to 6/60.

Three weeks later however, the right eye developed traumatic endophthalmitis. The visual acuity in that eye had dropped to "counting fingers at 6 inches" and there was a hypopyon in the anterior chamber. She was readmitted and given intravitreal amikacin and gentamicin after vitreous and aqueous taps were taken. Topical treatment of gentamicin, ceftazidime and fusidic acid was commenced.

As there was no improvement in her condition, vitrectomy was planned for her a week later (9/3/98). At surgery, a right cataract extraction was performed in addition to resuturing of the previous corneal laceration. A fibrinous membrane in the anterior chamber was removed and sent for culture and sensitivity. As the vitreous appeared to be fairly clear and the retina flat, a vitrectomy was not done at that time.

The culture from the anterior chamber grew *Candida albicans* and she was started on amphotericin eye drops. Three weeks later, white nodular lesions were seen on the iris which were suggestive of fungal endophthalmitis and she was also started on systemic antifungal treatment of ketoconazole 200mg bd. Two months post injury however, she underwent evisceration of the right eye due to uncontrolled infection.

Case Report 2

A 13 year old Malay boy sustained a penetrating fishhook injury to his left eye while fishing on 13/11/95. He had pulled the fishhook out himself before presenting to the eye clinic two hours later. At the time of presentation left eye vision was 6/24, 6/12 with pinhole. There was a central corneal laceration wound 5mm long, the lens was cataractous and there was iridodialysis inferiorly. He was given intravenous Ceftazadime prophylactically. Suturing of the corneal wound was done with nylon 10/0. His postoperative course was uneventful. Eight months after the injury he underwent lens aspiration and intraocular lens implantation for a traumatic cataract. Best corrected visual acuity was 6/9 with refraction. There was a remaining corneal scar in his left eye.

Discussion

Ocular fishhook injuries are rare. In Kuala Lumpur Hospital only 2 cases were admitted to the eye ward between 1995 - 1999. The Wilmer

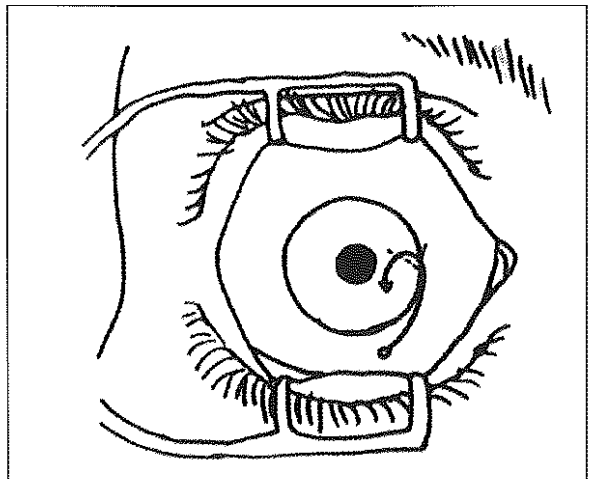


Fig. 2: Entry point of hook at the limbal area, 3 o'clock position with barb embedded in the central corneal stroma area.

CASE REPORT

Ophthalmological Institute reported 5 cases of ocular fishhook injuries from 1974 - 1990¹. What makes removal of fishhooks from delicate ocular tissue especially challenging is the presence of the barb. Simply pulling out the fishhook from the eye can cause more damage than the initial injury. In the first case, a radial incision had to be made in order to release the barb from the corneal stroma, before backing the hook out through an enlarged limbal wound. Another method which is useful in anterior segment injuries is the "advance and cut technique"² where a controlled surgical incision is made over the point and barb which allow the point and the barb to be advanced out of the ocular tissue. The barb is then transected with wire cutters and then the now barbless hook is backed out. This method may also be used for injuries involving the retina where the point is manipulated to exit the pars plana. For posterior segment injuries, the needle cover technique has been described by Grand and Lobes² which entails passing a large bore needle into the eye through the hook entry wound. The fishhook barb is then engaged within the lumen of the needle and both are withdrawn together. Cryotherapy, photocoagulation or scleral buckling procedure is then performed as indicated.

Anterior segment injuries are most commonly encountered as the bony orbit provides some protection to the posterior segment. Therefore a relatively good visual prognosis can be expected as evidenced by the second case. However as fishhook injuries are often contaminated wounds with a wide range of pathogens, the patient may lose the injured eye following endophthalmitis as in first case. Therefore it is important for prompt surgical repair and broad spectrum antibiotic cover, for fishhook injuries. The intravenous antibiotic cover and topical antibiotic cover used in the first case was inadequate to combat the infection. Antifungal treatment should have been commenced earlier. Performing a vitrectomy earlier in this case may have also saved the patient's eye.

Besides knowing how to manage ocular fishhook injuries when they present to us, we need to educate the public on the importance of eye protection in any potentially sight-threatening activity. Protective eyewear, made of polycarbonate should be worn to prevent ocular injury. Fishermen and bystanders should also be aware of the potential danger of fishhooks and exercise caution when someone is casting or extracting or retrieving a fishhook.

References

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