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Case Report

Penetrating corneal fish hook injury: A case report

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ABSTRACT

Fishing is a popular recreational activity. Ocular penetrating fish hook injury is an unusual cause of ocular trauma and is often challenging in management. We are presenting a case report of a 29 year old male who came to our casualty with penetrating corneal injury due to a barbed fish hook while trying to catch fish. Fish hook was seen penetrating through the cornea and iris and the tip was not seen. We enlarged the wound and used foreign body forceps to separate the ocular tissues from the barb of the hook. Knowing the structure of fish hook and its relation to ocular tissues is important for successful removal of fish hook and for a good outcome.

Key Messages: 1: The technique for removal of fish hook from eye depends on the relation of the hook to the ocular tissues; 2: Appropriate surgical intervention is necessary for a good outcome

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1. Introduction

Ocular injuries are one of the leading causes of blindness and visual impairment in working age population.¹ About half a million people are blind due to ocular trauma worldwide.¹ Major risk factors for ocular injuries include age, gender, socioeconomic status and lifestyle.²

Fishing is a popular recreational activity for many people, for fishermen it is their livelihood. But this can cause a variety of ocular injuries. There is limited published information regarding fish hook penetrating ocular injuries. Visual morbidity following fish hook can be due to corneal scarring, retinal detachment, endophthalmitis.³ However prompt and appropriate surgical management could prevent these devastating consequences.

2. Case History

A 29 year old male came to our casualty department with history of trauma to right eye with fish hook 2 hours back. While trying to catch fish, he pulled the fishing line and the hook got accidentally hit his right eye and was caught there. He consulted a nearby hospital and was referred to our hospital for further management.

On examination, visual acuity in his right eye was counting fingers at 1m. A fish hook was seen penetrating the peripheral cornea of right eye at 8 o'clock position. The corneal wound was about 3mm in size and 1mm from limbus (Figure 1). The hook was seen only upto the bend. Surrounding corneal stromal edema and Descemet's folds were present. Anterior chamber was irregular in depth with dispersed hyphema. Iris was seen prolapsed up to wound margins. Pupil was irregular and peaked at 6 O'clock. Intraocular pressure was digitally low.

The patient was started on intravenous antibiotics. HRCT orbit showed the fish hook penetrating the cornea, the posterior aspect of the curved hook was noted in the

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posterior chamber. Vitreous haemorrhage was also present (Figure 2).

The patient was taken for emergency surgery under general anaesthesia. Wound was washed thoroughly with balanced salt solution and antibiotic solution. Two paracentesis incisions were made and hyphema washed. Anterior chamber formed using viscoelastic. Fish hook was seen penetrating through the cornea and iris and the tip was not visualized. Minimal vitreous prolapse was present at the wound. After enlarging the wound foreign body forceps was introduced through the wound and the ocular tissue was released gently from the barb of the hook. Then the fish hook was removed through the same wound (Figure 3). Anterior vitrectomy was done and wound sutured with 10-0 nylon sutures (Figure 4). Anterior chamber was formed and intracameral moxifloxacin was given.

On the first post-operative day, visual acuity in right eye was counting fingers at 3m. Wound was healing and anterior chamber was normal in depth. Fundus examination showed vitreous haemorrhage in the inferotemporal periphery.

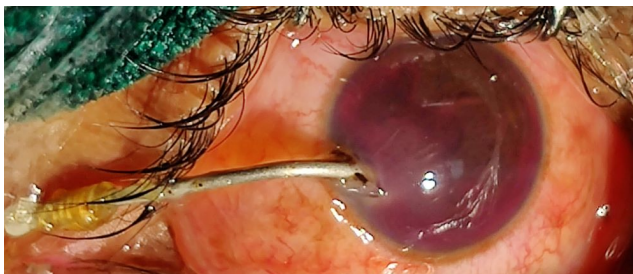


Fig. 1:

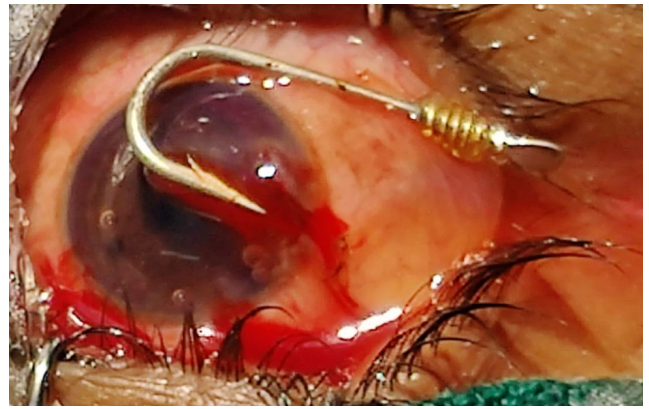


Fig. 3:

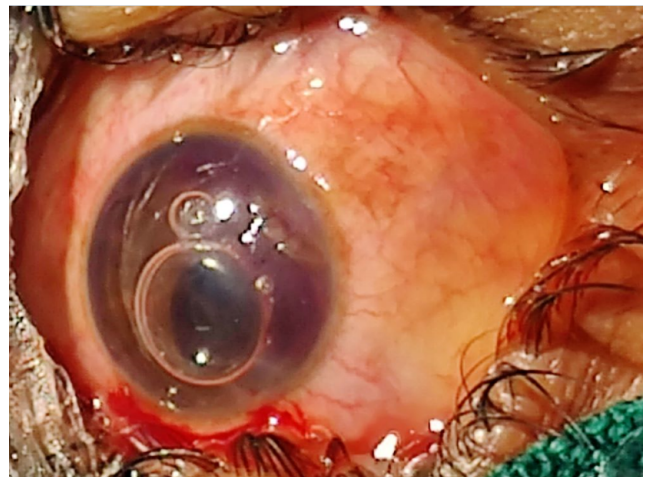


Fig. 4:



Fig. 2:

3. Discussion

Trauma is unique among the causes of blindness because nearly 90% of this blindness can be prevented by relatively simple measures. People should be educated about the causes and prevention of eye injuries. Through educational programmes, potential eye injuries may be prevented. As fishing related eye injuries are common, people doing fishing must be aware of this and be extremely careful. Eye protection is mandatory for those doing fishing as well as for observers. Fishing glasses or protective goggles should be worn for preventing eye injuries.

A prompt and well planned surgical intervention is necessary for a good outcome. The technique for removal of fish hook depends on the type of fish hook, the depth of injury and the relationship between fish hook and ocular tissues.^{4,5}

There are different techniques for removal of fish hooks embedded in ocular tissues. The backout method refers to backing the hook out through the entrance wound. It can be used in barbless hooks. In advance and cut technique,

a controlled surgical incision is placed to allow atraumatic delivery of the point and the barb. Sterile wire cutters are used to cut the hook between the barb and the bend. Then the hook can be easily removed using the back-out method. In cut-it-out technique, the primary wound is enlarged and the hook is removed by backing through the same wound.^{6–11}

Fish hooks can also cause perforating injuries to the eye and these can be distinguished by the presence of entry and exit wounds. Management of these cases should be done cautiously to avoid further injury to the delicate ocular tissues as the hook is removed. Ideally the hook should be cut and the two pieces removed separately to ensure there is minimal iatrogenic damage.

In this case, we enlarged the wound and used foreign body forceps to separate the ocular tissues from the barb of the fish hook. Successful removal depends on understanding the structure of fish hook and employing appropriate method of removal.

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None.

6. Conflict of Interest

None.

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