

Case Report

Fish Hook Injury of Eyelid: An Unusual Case

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Abstract

Fishing is a common pastime as well as an important source of daily income for people around the world, be it a developed or a developing nation. It can be associated with unusual ocular injuries. Here, we report a case of a young man who presented with a fishhook injury into his right lateral half of upper eyelid piercing through the fornix. To the best of our knowledge, this is the first reported case of fishhook injury from this part of the world and only a few have been published in the literature till date. This case report aims at familiarizing the reader with this uncommon and atypical injury and its better management.

Keywords: Eyelid injury, fishhook, fishhook injury, ocular injury, traumatic injury

INTRODUCTION

Fishhook ocular injuries are rare and can have catastrophic consequences. They can be associated with lacerated eyelid injury, corneal laceration, scleral perforation, traumatic cataract, vitreous hemorrhage, choroidal hemorrhage, and even retinal detachment. Under poor circumstances, it can also lead to endophthalmitis with complete loss of vision and eye. There are only a few handful reported cases of ocular fishhook injuries in the medical literature. In India, fishing is a common source of daily income and livelihood, mainly done with the help of fishnets. Recreational fishing for pastime is a rarity. Many of us do not encounter such type of injury and most of us will not see it in our entire professional career. For a barb lodged into the eyelid, important structures such as extraocular muscle involvement, vortex vein injury, or any scleral perforation should be ruled out. Injury to these structures can also occur while taking out the hook because of the barb attached to it. Therefore, although the injury may appear simple and not sight threatening at presentation, proper careful consideration should be taken before proceeding with its removal. Otherwise, it can only worsen the situation by causing more damage to the important ocular structures and the eyelid tissue.

CASE REPORT

A 19-year-old young man presented to our outpatient department (OPD) with a fishhook piercing into his right

upper eyelid with the entry point being the fornix and no exit point, while he was pulling the line for catching fish. The barb was stuck from inside and he was under excruciating pain. The barb and the thread line attached to it of around 10 cm were present, still hanging, although he was able to cut the rest of the line by himself. Visual acuity was 6/6 in both the eyes. On examination, there was no associated ocular injury. The tip of the fishhook could be palpated externally. The fishhook with its attached line was secured with surgical tape, so as to prevent the hook from causing further damage. Plain x-ray of the skull (anteroposterior and lateral view) ruled out the possibility of any ocular or bony structures to be involved and showed the presence of a single barbed hook [Figures 1 and 2]. The patient was scheduled for surgery and shifted to emergency. Signed informed consent was taken from the patient. He was operated under local infiltration anesthesia (2% xylocaine and adrenaline 1:200,000).

As there was no exit point from the skin [Figures 3 and 4] and only one entry point, we removed the barb stuck from inside by extending the wound with a 15° blade and removing the lodged barb along with the tip. The fishhook was completely removed [Figure 5] with no requirement for sutures as the wound was

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Figure 1: X-ray anteroposterior view



Figure 4: Entry wound at the upper fornix seen after retraction of eyelid



Figure 2: X-ray lateral view

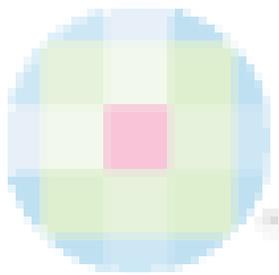


Figure 5: Fishhook with attached line after removal



Figure 3: Fishhook entering through the fornix with no exit point

small. Injection cefoperazone-sulbactam 1.5 g BID was given intravenously, injection diclofenac intramuscular (75 mg/3 ml) 1 ampoule BID was given postoperatively, along with injection tetanus toxoid (0.5 ml) 1 ampoule intramuscularly. Oral

serratiopeptidase (20 mg) was prescribed to minimize inflammation.

DISCUSSION

Fishing hooks have been around for centuries, playing a vital role in providing food and commerce. Throughout time, hooks have been made from various materials such as bones, shells, wood, stone, bronze, iron, and steel. Ocular fishhook injuries are uncommon, but they can cause potentially devastating trauma. Eyelid injury due to fishhooks, although not life-threatening, can cause a lot of apprehension and unease for the patients as well as the surgeon treating it. The fishhook and its barb may catch any extraocular muscles or cause injury to the vortex vein or sclera that may not be externally appreciable. These complications can even occur while taking out the hook thinking it to be a simple lodgment, because the barb attached to it tends to drag the surrounding structures when pulled in a reverse direction. Imaging modalities such as x-ray, B-scan, and computed tomography scan can reveal involvement of these structures. Associated complications such as vitreous hemorrhage, retinal

detachment, and the integrity of the globe can also be assessed. Careful and correct method ensures safe removal with minimal trauma.

A typical fishhook is made up of the following parts: (a) point, (b) barb, (c) bend, (d) shank, and (e) eye; the distance between the shank and the point is termed as “gap” [Figure 6]. Barb can be single or multiple with different types of baits like colored feathers (to imitate insect wings) and live baits like earthworm or grasshopper. Kamath^[1] described a case of fishhook injury to the eyelid in which the fish hook was loaded with live maggots. Multiple barb fishhooks are much difficult to remove. The point of the fishhook pierces the skin easily but it is a challenge for the operating surgeon to remove it from the tissue without creating more traumas because of the barb attached to it. As per previously reported cases, the incidences of ocular fishhook injuries were more common in men compared with women, and occurred at a younger age.^[2-4] In our case also, the victim was a young man. Srinivasan and Macleod^[5] reported a case of a 50-year-old man with fishhook lodged into the left upper lid penetrating through the skin. Chakraborti *et al.*^[4] and Kalyanasundaram *et al.*^[6] reported women as the victim of ocular fishhook injury in their reports. Aiello *et al.*^[2] observed in their study that the left eye was involved in 80% of cases. In no instance had a single hook penetrated the lid and globe simultaneously. Men were the major victims but had a good final visual outcome. Right and left eye were equally affected. All the reported cases had a good postoperative surgical and visual prognosis.^[2-4] Therefore, although a devastating injury, a timely and correctly planned surgical intervention can lead to a better outcome.

Some of the techniques for the removal of fishhooks reported in the medical literature are as follows:

- (1) **“Back-out” or retrograde method:** This is the simplest of all techniques. The fishhook is simply backed out of the entry wound and can be done for barbless fishhooks as the presence of barb will cause increased tissue injury while backing out.
- (2) **“Advance and cut” method:** The hook shank is grasped and a controlled surgical incision is placed to allow atraumatic delivery of the point and barb. Sterile wire cutters (using isopropyl alcohol) are used to transect the hook at a location between the barb and the bend, after which the barbless hook is easily removed using the back-out technique previously described.^[7]
- (3) **“Advance without cut” method:** The hook is advanced into the subcutaneous tissue in a forward direction and extracted from the second exit wound of the lid without cutting.^[8]
- (4) **“Needle-cover technique”:** It was described by Grand and Lobes.^[9] In this procedure, a needle having sufficiently large bore size is used. The barb is engaged with the lumen of the needle after entering through the primary entry wound and both are drawn out together.

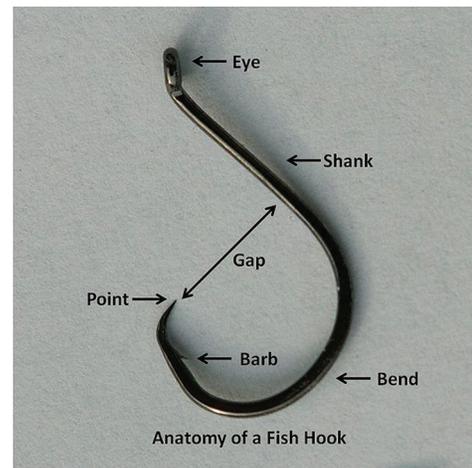


Figure 6: Various parts of a typical fishhook

- (5) **“Snatch technique”:** It is a modification of the back-out method, wherein downward pressure on the hook shank and rapid extraction are used to diminish pain during the removal procedure in nonocular tissues. This is a relatively traumatic technique and not advised for penetrating ocular injuries. It is well reserved for nonocular injuries.
- (6) **“Cut-it-out” technique:** In this method, the entrance wound is enlarged by a scalpel blade or 15° blade. The blade is slid along the hook until it reaches the barb and the hook is backed out of the eye similar to the back-out technique.^[3]

The method employed by us was akin to “back-out method” except that the main wound was extended to minimize tissue trauma, which would have been there in a pure back-out method. This was also different from “cut-it-out method” as was done by Ahmad *et al.*^[3] We call it as “modified back-out method” and can be employed when there is only one entry point and a partial penetration of the barb into the eyelid.

CONCLUSION

Fishhook injury of the eyelid is an uncommon presentation requiring careful examination and correct technique selection for its urgent removal with minimal damage to the ocular tissues. The postoperative outcome in majority of cases is good.

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Conflicts of interest

There are no conflicts of interest.

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