

# A severe penetrating eye injury with a fish hook

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## Abstract

• An interventional case-report about a rare case of penetrating eye injury caused by a fish hook. A 34-year old man was brought to the emergency department with a fish hook embedded in the eye. The fish hook occupied the whole globe with part of it penetrated into the posterior part of the sclera. It was extracted under general anaesthesia using the back-out method. The back-out method is the best option for the removal of the fish hook that penetrated the globe till to the posterior part of the sclera

• **KEYWORDS:** fish hook, posterior segment injury, back-out method

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## INTRODUCTION

Fishing has become an increasingly popular recreational activity worldwide especially among the working age population. Fortunately, penetrating ocular injuries with fish hooks are uncommon.

Fish hook injuries involving the anterior structures of the eye have been reported<sup>[1-4]</sup> with various techniques of removal of the fish hooks. We report a rare case of extensive posterior segment injury caused by a fish hook which has resulted in a devastating visual loss. The removal technique of the fish hook is discussed.

## CASE REPORT

A 34-year old man presented with history of ocular trauma during fishing. He sustained a penetrating injury in the right eye with a barbed fish hook. He was brought immediately to the emergency department.

The visual acuity in the injured eye at presentation was hand movement. A barbed fish hook was embedded at the limbus (Figure 1). There was a severe hyphaema in the anterior chamber. The reverse relative afferent pupillary defect was

positive. The intraocular pressure was 28mmHg.

An emergency computed tomography scan of the orbit revealed presence of a highly dense foreign body which occupied the whole anterior-posterior axis of the right globe and part of the foreign body was embedded at the posterior part of the sclera (Figure 2).

An emergency exploration, removal of the fish hook and cornea toilet and suturing were performed. The primary wound was enlarged during the surgery, followed by retracting the fish hook out through the enlarged wound (Figure 3).

Postoperative B-scan demonstrated evidence of dense vitreous haemorrhage, choroidal hemorrhage and retinal detachment. The patient was treated with topical antibiotics, topical steroids and intravenous antibiotics. His final visual acuity remained poor with vague perception to light.

## DISCUSSION

Correct techniques of removing the fish hook from the eyes are essential to ensure the safest procedure and minimum ocular tissue damage with the aim to preserve best final visual outcome. The back-out method refers to backing the fish hook out through the entrance wound and useful for barbless hooks. The advance and cut method is the most useful technique for removal of the fish hook in the anterior segment.

Grand and Lobes described a technique for removing the fish hook from the posterior segment of the eye<sup>[5]</sup>. It is known as needle-cover technique and useful for removal of hook penetrations of the retina. It refers to passing in a large bore needle into the eye through the hook entry wound. The fish barb is engaged within the lumen of the needle and both are withdrawn together.

We encountered difficulty in removing the fish hook from our patient's eye. The needle-cover technique was not useful because part of the fish hook has embedded in the posterior part of the sclera. We removed the fish hook successfully from the patient's eye using the back-out removal technique. It was extracted by backing the fish hook out in a controlled fashion



Figure 1 A fish hook was embedded at 7 o'clock limbal area

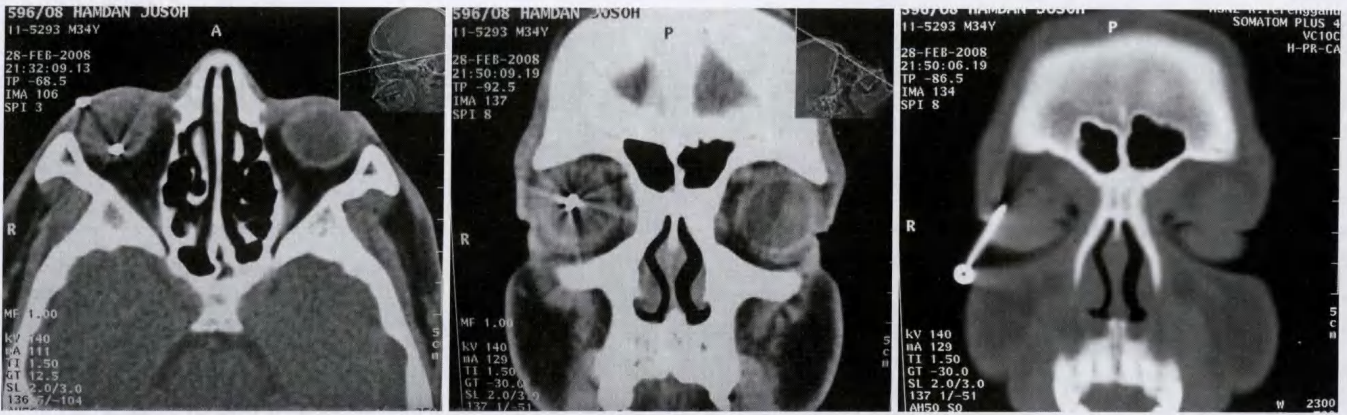


Figure 2 CT-scan orbit shows a highly dense foreign body within the right globe and part of the foreign body is embedded at the posterior part of the sclera

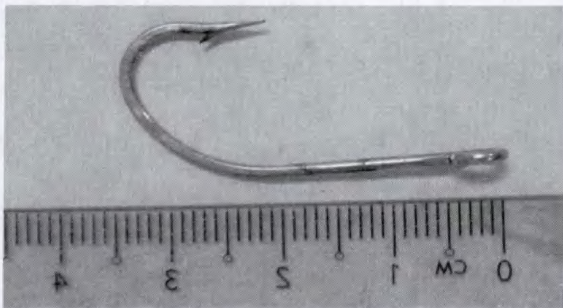


Figure 3 The fish hook has been removed

very gently through the entrance wound. As we have enlarged the entrance wound, delivery of the barb was easier and caused less damage to the ocular tissues. The choice of general anesthesia has stabilized the eye ball successfully and resulted in less manipulative procedures during removal of the fish hook.

The needle-cover technique seems beneficial to remove a fish hook that has penetrated the retina and lay within the vitreous cavity. We conclude that back-out method is the best procedure for removal of the fish hook that penetrated the globe till to the posterior part of the sclera. The poor final visual outcome is parallel with the degree of tissue damage that has taken place.

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#### 鱼钩所致严重眼球贯通伤 1 例

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#### 摘要

患者,男,34岁,鱼钩戳入眼睛被送到急诊科,鱼钩插入整个眼球,部分从后巩膜穿出。全麻下,经原路后退取出鱼钩。对于已经穿至眼球后巩膜的鱼钩,原路后退法取出是最佳选择。

关键词:鱼钩,眼后节外伤,原路后退法