

Fish Hook Injury of Hand: Should Home Removal be Attempted?

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Citation

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Abstract

A 35 year-old male with a fish hook injury to his left hand presented to the Orthopedic casualty with a bleeding hand and holding a large fish hook with other hand, the shank of which was deeply embedded in the first web space. Multiple attempts to remove the hook at home had failed. After rotating the hook deeper and disengaging the barb from the tissue, it was backed out along the path of entry. Home removal by unqualified persons should strongly be discouraged and the patients should be referred to specialized surgical units for atraumatic removal and further management.

INTRODUCTION

Fishing is recreational activity enjoyed by millions of people worldwide. Although uncommon in developing countries it is a popular pastime in the Western world. Because of their design and nature, accidental impalement with fishhooks poses problems with removal. Often, the hook cannot be removed by the patient because of the barbs. All fishhook injuries require careful evaluation of surrounding tissue before attempting removal. Most of the reports of fish hook injuries have been the focus of the ophthalmologists.^{2,3,4} We report a case of fish hook injury to the hand and discuss the management and complications of this unique injury.

CASE REPORT

A 35 year-old male sustained a fish hook injury to his left hand. He presented to the Orthopedic casualty after a period of four hours, with a bleeding hand and holding a large fish hook with other hand, the shank of which was deeply embedded in the first web space(Fig.1)

Figure 1



Before presenting to the hospital, many attempts by his friends to remove the hook were not successful. An attempt by the junior specialist resident in the emergency examination room was of no use. An examination by senior resident revealed that a shank of the fish hook had pierced the dorsal aspect of the first web space. After advising the radiographs . The patient was shifted to operation theatre. The patients had no documentation of tetanus immunization so was immunized. Local anesthesia was infiltrated around the embedded part of the hook. Thorough cleaning of the wound, hook and whole limb was done with saline irrigation and povidone-iodine.

After small extension of skin wound, the hook was removed with the simple back out, a traumatic technique. After

rotating the hook deeper and disengaging the barb from the tissue, it was backed out of the skin along the path of entry. (Fig. 2)

Figure 2



The wound was again washed, examined for the presence of possible foreign material and left open. The patient was discharged on oral prophylactic antibiotic therapy with the advice to attend the hospital every alternate day. The wound healed without any complication and patient resumed his daily activity in three weeks.

DISCUSSION

Fishing is a popular leisure activity in many parts of the world. Even if you fish carefully, you may get a fishhook in your skin¹. Fishhook injuries often occur when you remove a slippery, flopping fish from your line. Injury may also occur when you are casting a line, from another person casting a line, or if you walk barefoot near fishing gear. The chance of a fishhook injury increases if you are not familiar with fishing gear. Although fishhook injuries to the limbs are not common, but can cause major damage to muscles, tendons, ligaments, neurovascular structures and bones if an appropriate techniques for its removal is not employed⁵. Fishhook removal from areas such as the eyes, anterior neck, and in close approximation to known neurovascular bundles should be performed by the appropriate specialist.⁶

Fishhooks come in an assortment of sizes and shapes, designed for specialized kinds of fishing or for particular types of bait. Most fishhooks contain barbs, and it is because of these barbs that fishhook removal is a sensitive procedure. With hooks exceeding two inches on average lures, hook extraction becomes slightly more challenging.

Various techniques for the removal of fish hooks embedded in non-ocular tissues have been reported in the literature^{5,6,10}

among which back out method, snatch technique and advance and cut method are popular. The back out method refers to backing the hook out through its entrance wound. Although technically simple, it is primarily useful for barbless hooks. The snatch technique is a modification of the back-out method, where downward pressure on the hook shank and rapid extraction are used to diminish pain during the removal. In advance and cut method the hook shank is grasped firmly and a controlled surgical incision is placed to allow atraumatic delivery of the point and barb. Sterile wire cutters are used to transect the hook at a location between the barb and bend, after which the barbless hook is easily, removed using the back-out technique. The needle cover technique works well for the removal of large hooks with single barbs but is most effective when the point of the fishhook is superficially embedded and can be easily covered by the needle. In our case, the size of the hook was large and tip was buried deep in tissues. Advance and cut Method would damage the tissues of hand, meant to perform some delicate functions. We extended the skin wound to one cm on either side and disengaged the hook barb and removed it by push out technique.

Once the fishhook has been successfully removed, the question of infection control arises. Obviously, any wound should be thoroughly irrigated and cleaned. The organism responsible for the most complications is the *Aeromonas* species.^{7,8} While infections with these organisms are rare in otherwise healthy persons, they are common in patients injured by contaminated fish hook. Infections caused by *Aeromonas hydrophilia* can be invasive and are rapidly progressive. In a report of 23 confirmed cases of *Aeromonas* wound infections following exposure to fresh water, 39% involved fascia, tendon, muscle, bone, or joints.^{8,9,10}

We suggest that all fish hook wounds should be treated as potentially contaminated and extension of skin wound is of paramount importance to clean the interior of the wound. By extension of the skin wound, the barbs of the hook can easily be visualized for risk to damage some structure (Extensor polices longus in our case), at the time of removal. Primary closure of the wound should be delayed till the risk of infection is over. prophylactic oral antibiotic therapy (Preferably flouroquinolone) for 7-10 days is sufficient in non complicated wounds.

In conclusion, the barbed fish hooks are difficult to remove. Home removal by unqualified persons should strongly be discouraged and the patients should be referred to specialized surgical units for atraumatic removal and further

management.

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