CLINICAL IMAGES

The Most Dangerous Catch: Fisherman Caught by Halibut Hook

Late one Saturday night, a 51-year-old, right-handed commercial fisherman presented to the Emergency Department of the Alaska Native Medical Center, a Level II Trauma Center, in Anchorage, Alaska. About 28 hours earlier, on a fishing boat in the Bering Sea, he had been untangling a jumble of lines and halibut hooks on deck when a nearby crewman hooked a halibut and a line started paying out rapidly. The line that was running

to the halibut snagged the tangled lines and hooks on which the patient had been working with such force that a halibut hook became embedded in his right index finger. The patient was nearly dragged overboard as the line continued to run.

Figure 1 shows the hook in the patient's finger. The patient had covered the sharp tip of the hook with black vinyl tape so it would not catch on nearby objects, but it can still be seen protruding from the finger.

How would you manage this injury?

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Figure 1. Halibut hook embedded in the patient's right index finger. The tip is just visible under the black vinyl tape. Photo by Ken Zafren, MD.

Figure 2. Lateral radiograph of the patient's right hand, showing the hook with the barb at the level of the proximal interphalangeal joint. Courtesy of Ken Zafren, MD.

Figure 3. Anterior-posterior radiograph of the patient's right hand, showing the curvature of the hook. The barb is barely visible due to its orientation. Courtesy of Ken Zafren, MD.

Answer

The day after the injury, the ship made port in an isolated Alaskan fishing village. The provider at the village clinic reportedly proposed pulling the hook out the way it went in. The patient knew that this was not a good plan, because fishhooks have a barb to prevent them from coming out the way they go in. Figure 2 is a radiograph showing the barb. The patient then flew to Anchorage, a distance of 1245 km (774 mi), for definitive care.

There are many ways to remove fishhooks from parts of the body.¹ To remove a small fishhook from a finger, the usual strategy is to anesthetize the finger using a digital block. Once the finger is numb, the hook can be advanced until the tip and barb protrude. Sometimes it helps to make a small nick at the exit point with a scalpel blade. The tip and barb are then cut off using a wire cutter and the hook is gently backed out. This method works best when the barb is close to the surface or already protruding from the skin. Sometimes the fishhook is shallowly embedded and it is easier to back the hook out while covering the barb with an 18-gauge needle or with the flat side of a #11 scalpel blade. If the hook is deeply embedded or if anesthesia is not available,

the string-yank technique can be used. In this technique, the nondominant hand of the person removing the hook is used to disengage the barb from the subcutaneous tissue and the dominant hand is then used to give a sharp pull on a string wrapped around the curved part of the hook. These techniques are not suitable for large fishhooks.

Large halibut hooks are made of stainless steel and are curved. After ensuring a normal neurovascular examination, the emergency physician anesthetized the finger using a digital block and obtained radiographs (Figures 2 and 3). Figure 3 shows the curvature of the hook. The part of the tip that protruded from the finger was oriented so that it lay flat against the finger, making it difficult to gain any purchase. Efforts to advance the hook were limited by the size of the barb. It became clear that the finger would have to be incised along the hook until the barb could be freed before advancing the hook.

At this point, the emergency physician called for reinforcements. The orthopedic surgeon on call graciously came to the Emergency Department to assist. After administering additional anesthesia (a metacarpal block and a "ring block"), he incised the skin overlying the

hook from the exit wound to the level of the barb at the proximal interphalangeal joint. The emergency physician then used the largest bolt cutter in the hospital, which had been produced by the maintenance department for the purpose, to cut off the tip just below the barb, while the orthopedic surgeon used a large hemostat to secure the tip and prevent it from becoming a missile.

After removal, the entrance and enlarged exit wounds were copiously irrigated with normal saline and left open. The patient was given oral levofloxacin for prophylaxis against infection, particularly to cover infections with marine organisms, such as *Vibrio vulnificus*. He was also given a tetanus booster (Tdap), because his last tetanus booster had been more than 10 years before this visit. A bulky dressing and splint were placed, and plans were made for the patient to follow up at the orthopedic clinic.

The patient decided not to follow up at the orthopedic clinic but to return to his home about 180 km from Anchorage. When contacted by phone about 3 weeks

after the injury, he reported that he had taken his antibiotics as prescribed and that the finger was healing well, although it was still somewhat swollen.

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Reference

1. Stone DB, Koutouzis TK. Foreign body removal. In: Roberts JR, Hedges JR, eds. *Clinical Procedures in Emergency Medicine*. Philadelphia, PA: WB Saunders; 2004:694–716.