An Approach to Fish-hook Injury in Children in Remote Hospital: Case Reports and Brief Literature Review

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Abstract: Fish-hook injury is a leisure activity or occupational based among adults, rarely seen in child group. But, it has been occasionally seen in the playing group children when the fishing rod with hook kept carelessly or children try to play and caught hand or bodily injury. Although there are techniques mentioned about the injury management in adults, none are found reported while injury in child. We report a case of such injury in the hand and discuss the technique for its removal with a short literature review.

Keywords: Children; Fishhook; Injuries.

Introduction:

Fish-hook injury is a leisure activity or occupational based among adults, rarely seen in child group. But, it has been occasionally seen in the playing group children when the fishing rod with hook kept carelessly or children try to play and caught hand or bodily injury. Although there are techniques mentioned about the injury management in adults, none are found reported while injury in child. We report a case of such injury in the hand and discuss the technique for its removal with a short literature review.

Case report

A 3 year male accidently suffered a fishhook into his great thumb. He came to the surgical OPD one day after the incident with pain. Unsuccessful attempts at removal were made. A retrograde pull method was applied to remove it successfully.

Figure 1 showing the embedded hook in thumb

Fig. 2 removing the fish hook under direct vision
DISCUSSION

Fishing can, at times, be a dangerous event for fisherman and fishing hobby people which is not that unusual. But it can also lead to an accident in children, though it is rare, due to the careless of keeping fishing rod and string with barbed hook. This is not surprising when the most important piece of the fishing gear is a sharp curved metal hook. The potential dangers of a fish hook have been explained recently [1]. The hand is most commonly injured followed by the head and eyes. Although the former injury can be managed in the emergency department, the latter needs specialized care [2]. If one is not familiar with fishing gear, injury becomes more probable. With more modifications in the hook design, the emphasis is mostly on the barbed end. It is designed to snag the fish’s mouth and makes hook removal difficult. However, it was not modified hook in our case. No guideline is presently available in the literature for safe removal of fishhook for child to the best of our knowledge. Proposed techniques for adults are as follows (Table 3);

1. Retrograde technique
2. String pull technique
3. Needle cover technique
4. Advance and cut technique

There are very few literatures found regarding the fish hook injury and management for children. Some of the literatures for adult fish hook injury and management is explained by Doser et al. [3] in a study on 100 patients found the retrograde technique useful in only 40 patients. The string pull technique is the modified retrograde technique with the advantage of being less traumatic to soft tissues, and does not need another exit site. Cooke [4] described how to remove fish hook with a string which has undergone lot of modifications till now. However, its effectiveness on deeply embedded barbed hooks is questionable. Furthermore, in areas where the risk of damage to vascular structures is greater, this technique cannot be applied. The needle cover technique can be effectively applied for superficially embedded barbed fishhooks. Being a blind procedure, its use for deeply embedded hooks in high risk neurovascular areas cannot be guaranteed. Prats et al emphasized the management of injuries caused by barbed hooks but showed his method on only two cases [4]. Nabi et al. discouraged home removal of fish hooks by untrained persons in a single case report. However in their technique the barb was not cut as it was easily disengaged by slight rotation which was possible in the first web space of the hand [5]. The retrograde pulling method is used successfully in all types of barbed hooks [4]. The hook is pulled back through and the barbed end is pulled under direct vision, thus minimizing injury to soft tissue or the underlying structures. Since retrograde pull method has been seen effective in adults with higher success we applied retrograde pull method successfully, in our case, to remove hook the same day in minor operation room under local anesthesia. Whatever technique is used, wound care is of utmost importance. Thorough washing with aseptic and proper tetanus prophylaxis for unimmunized patients are the basic requirements of wound care. Though use of antibiotics is not recommended for superficial wounds [2], however, prophylactic oral fluoroquinolones to cover Aeromonas hydrophila are recommended for deep wounds [6-7]. Patients should be followed for proper healing and absence of infection. Semel et al. [8] in their study warned regarding rapidly progressive nature of soft tissue infections in water-associated traumatic wounds; 39% of their cases had associated fascia, muscle, tendon, bone or joint infections. Thorough lavage, atraumatic removal and prophylactic antibiotics decrease the risk of infection. Since the injury in our case was an accident based at home and the wound was superficial, the prophylactic antibiotic was not recommended, rather the good analgesic with. Fish-hooks can be removed in children less traumatically following retrograde pull technique used in adult with a proper wound and pain care.
REFERENCES


