

Laporan Kasus

NEEDLEFISH BITE WOUND TO THE LEFT PELVIC REGION : A CASE REPORT

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Abstract

Introduction: Needlefish are predatory schooling fish with long slender jaws that have been known to leap out of the surface of the water at high speeds. Needlefish (Family Belonidae) are carnivorous fish that have long beaks that are studded with teeth, elongated bodies measuring up to 2 m, and live in temperate waters. Benefits of the emergency debridement and antibiotic prophylaxis. Case illustration: A 30-year-old male, fisherman by profession, presented 7 h after an odd accident while at sea. He gave a history of being injured by the horn of a 2-ft-long needlefish, which rose above the water and went through the right pelvic region. Clinical examination revealed an entry wound of 3x5 cm based on bone. The patient was hemodynamically unstable and in pain. The routine biochemical parameters in his blood were normal. We did the emergency resuscitation and debridement with local anesthesia in primary health care. The patient was hemodynamically stable 40 hours after debridement. We gave antibiotics, pain management, and tetanus prophylaxis. The patient was discharged home and 1 week after the accident there was no complaint. Conclusion: While rare, Needlefish related injuries can have clinical significance in excess of their external appearance. Injuries caused by Needlefish and other fish should be considered when the patient's injury history is consistent with a possible injury by a Needlefish or similar organism. The diagnosis was prompt, and even though the presentation to the casualty was delayed, immediate resuscitative measures and surgery ensured successful management of the patient.

Keywords: Needlefish, penetrating injury, pelvic

Introduction

Needlefish (Family Belonidae) is a fish with a long break and full of teeth. Its body can reach 2 meters and usually lives in temperate waters (Figure 1A, B). It usually lives at the surface of the seawater and avoids obstacles and predators by jumping out of the seawater. It can travel significant distances at speeds ranging from 30-40 meters per hour.

The injuries caused by Needlefish usually occur in the body area or lower limbs. Cases of needlefish puncture injures often occur at night, as the fish is highly attracted to bright lights used by fishers and night divers. The extent of internal injuries caused by

needlefish can far exceed visible external injury.¹ However, prompt medical and surgical attention can result in a favorable outcome, as many species have "hyperseptic" oral flora, including *Vibrio* species. Thus, puncture wounds caused by needlefish mouthparts need immediate initiation of broad-spectrum antibiotics.

Several case reports suggest that injuries from Needlefish are twice as common as shark bites in windsurfers, divers, and fishers.² Although this fish lives in places frequented by tourists and anglers, the chances of injury from a puncture by this fish are very rare. However, it has the potential for serious injury, with a

reported 13 deaths attributed to Needlefish.^{3,4}

Case Illustration

A 30-year-old male, fisherman by profession, presented 7 h after an odd accident while at sea. He gave a history of being injured by the horn of a 2-ft-long needlefish, which rose above the water and went through the right pelvic region. Clinical examination revealed an entry wound of 3x5 cm based on bone. The patient was hemodynamically unstable and in pain. The routine biochemical parameters in his blood were normal. We did the emergency resuscitation and debridement with local anesthesia in primary health care. The patient was hemodynamically stable 40 hours after debridement. We gave antibiotics, pain management, and tetanus prophylaxis. The patient was discharged home and 1 week after the accident there was no complaint.

Discussion

This case presents a rare stab wound, which posed some challenges for the doctor, especially considering the rural area with limited investigations and treatment. The likelihood of the injury caused by Needlefish was increased as the patient described the characteristic features of Needlefish. In addition, the clinical features of a single penetrating stab wound with no signs of systematic toxins further strengthened the primary cause of injury. The previous case report describes in more detail related to the

retained foreign body, neurovascular disorders, persistent pain, and local infections due to Needlefish.^{5,6}

Needlefish are usually found in tropical and subtropical waters in the Atlantis, Pacific, and Indian Oceanic areas. Some species of this fish family can be found in the freshwater of the South and Central America basin, Australia, and Asia.⁷ These fish species are pelagic, usually found in oceans in coastal areas. Fish in this family can generally be found in shallow waters such as bays and between the tides.⁸ This fish has a characteristic silver color with a cylindrical and elongated body. The length of this fish can reach 70 cm with a narrow and long jaw making this fish beak sharp with serrated teeth. These predatory fish usually swims on the surface of the water and can travel at speeds of up to 60 km per hour while hunting for small fish and avoiding predators.⁶ This species usually jumps out of the water, posing a risk to swimmers, surfers, and fishers. Most injuries from mouth punctures are often to the head, neck, and body.^{6,9}

An appropriate and prompt radiological examination can help to assess the severity of penetrating stab injuries caused by Needlefish. The Clinicians must choose the proper radiologic according to the type, size, depth, and likelihood of foreign body retention due to Needlefish puncture. This will be a challenge for clinicians, especially those working in rural areas, where supporting radiology examinations are unavailable.¹⁰ In this case, no

supporting radiology was done. Still, an assessment of the depth of the wound, injured organs, and debridement was done to rule out the possibility of foreign body residue. All processes were performed after local anesthesia and under sterile conditions.

The wound must be thoroughly cleaned before wound suturing is performed. Surgical emergency is necessary to remove any remaining foreign bodies and to perform debridement.¹¹ Once no foreign bodies remain, the wound is sutured to promote wound healing. Puncture wounds from marine animals are prone to infection. As reported by Auerbach, microbial pathogens are usually gram-negative rod bacteria such as *Aeromonas*, *Escherichia Coli*, and *Vibrio*, with *Vibrio* species being the most commonly encountered.¹² Small wounds in immunocompetent patients do not require antibiotic coverage. Patients with profound or complex wounds, possibly retained foreign bodies, or immunocompromised should be given antibiotics.¹³ Empirical antibiotic therapy should include a combination of beta-lactams and tetracyclines or clindamycin and ciprofloxacin in penicillin-sensitive patients.¹⁴ Tetanus immunization status should be reviewed, and immunizations can be given if appropriate.¹⁴ In this case, the patient was given ampicillin as a broad-spectrum antibiotic and metronidazole for surgical and animal bite prophylaxis. The patient was also given tetanus prophylaxis.

Conclusion

Although rare, stab wounds from Needlefish can be life-threatening. Treatment should be directed to the injured organ. Adequate antibiotics, painkillers, and adequate tetanus prophylaxis can be given for the management of Needlefish injuries. Wounds caused by Needlefish puncture should be irrigated, debrided, and explored under sterile conditions, then wound suturing should be done to allow for primary wound healing.

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Appendix

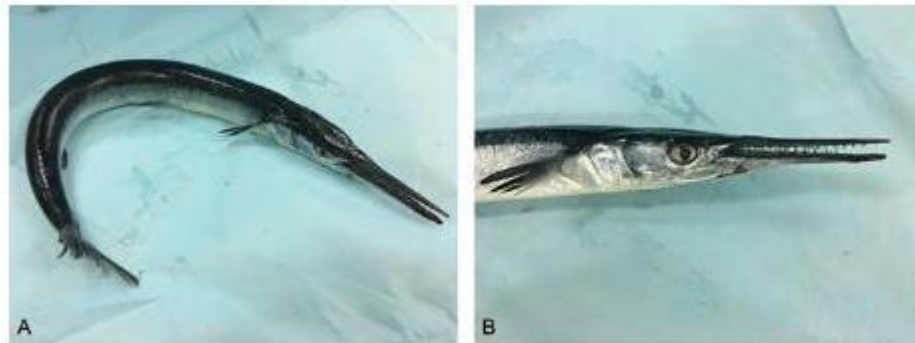


Figure 1 A. Needlefish, B. Close up Needlefish



Figure 2. Stab wound on the patient's left hip