MANAGEMENT OF A TOE PIERCED BY A FIN: A CASE REPORT.

Ramiza Ramza Ramli[1], Wan Mohd Saifuhisam Wan Zain[2]

[1]Department of Otorhinolaryngology Head and Neck Surgery, PPSP, Universiti Sains Malaysia, 16150 Kota Bharu Kelantan, Malaysia. [2]Department of Emergency and Trauma, Hospital Raja Perempuan Zainab 2, 15200 Kota Bharu, Kelantan, Malaysia.

Corresponding author:

Dr. Ramiza Ramza Ramli, MBBS (UWI), MMed ORL-HNS (USM).
Department of Otorhinolaryngology - Head and Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kota Bharu Kelantan, MALAYSIA.
Tel no.: 097676425 (Office), 097676424(Fax)
Email address: ramizaramza@usm.my

Acknowledgement

We would like to thank the Emergency and Trauma Department, Hospital Raja Perempuan Zainab 2, Kota Bharu Kelantan and the Director General of Health Malaysia for permission to publish this case report.

Funding and conflicts of interest

None declared

ABSTRACT

Fish related injury is very rare. Commonly involve an individual who handles food, fisherman and divers. The sting is actually a description of an injury due to the sharp and sometimes venomous dorsal spine impaling the soft tissue. The serrated dorsal spine also imposes a challenge in removing it that may cause further injury if not removed properly.

Keywords: *Ikan Patin, fish dorsal spine, fish sting*

INTRODUCTION

Fish sting is actually describing an injury by the sharp spine of the fin of the fish especially from the dorsal fin and the ventral fin. These sharp spines on the body of the fish serve not only as the frame for the fin also act as a defensive tool to deter predators. The spine usually has a sharp end with serrated edge. In some species of fish, the spine has the ability to deliver venom to its victim. Human usually sustained stings from fish by accidentally stepping on the fish, mishandling the fish while preparing it for meal or capturing it. Here we report a case of a boy who got stung by an *Ikan Patin* on his right foot.

CASE SUMMARY

A 6-year-old Malay boy allegedly pierced by the dorsal fin of a fish "*Ikan Patin*" over his right foot. The dorsal fin of the fish pierced the web space of his 4th right toe. The child sustained bleeding from the wound site which stopped spontaneously after a gentle compression was done at home. He complains of pain and restriction of movement of his 4th toe. Initial treatment was done at green zone, Emergency and Trauma Department, in Hospital Raja Perempuan Zainab 2 (HRPZ2), Kota Bharu, Kelantan.

On examination, the patient was alert, calm and comfortable. The vital signs were all within normal range and there was no sign of respiratory distress. A 7cm fish fin was seen piercing the web space between the 3rd and 4th right toe (Figure 1). No active bleeding noted and range of movement of 3rd and 4th toes were limited due to the pain. The sensation of the toes were intact.

Figure 1: Ikan Patin dorsal spine impaled on the right foot.

The right foot x-ray showed the sharp dorsal spine pierced through and through the web space of the 4th toe but no fractures seen (Figure 2). Removal of the fish fin and wound debridement was done under general anesthesia in the operating theater. Intraoperative findings, noted that the fin pierced the base of 4th toe through its dorsum aspect, stripping the periosteum of the 4th proximal phalanx, sparing the extensor digitorum longus before exiting through the plantar aspect.

Figure 2: X-ray of the right foot showing the fish's dorsal spine.

Due to the nature of the dorsal spine which has a serrated edge, a small incision was made through the web space to assist the

removal of the fin therefore avoiding further injuries to the surrounding tissue. After debridement, the wound was washed with povidone thoroughly and closed by non-absorbable suture. The patient was discharged with oral antibiotics, analgesics and was asked to do wound dressing with Chlorhexidine Acetate and bactigrass every other day at the nearest local community clinic.

The patient was later seen for wound inspection 2 days after the procedure and noted to have clean wound, intact suture, pink toes and good peripheral circulation as well as an intact sensation of all the toes. Uneventful removal of suture was done on day 7 at the nearest local community clinic.

Discussion

Ikan Patin is a local name for *Iridescent shark*, (scientific name: Pangasianodon hypophthalmus/ Pangasius Sutchi) a species of shark catfish native to the rivers of Southeast Asia.[1] It is not at all a species of shark. It is found in rivers in Malaysia especially in Pahang – located on the east coast of Malaysia where it is a favorite fish delicacy there and in Malaysia.

Ikan Patin is not known to sting or harm humans and no reported cases of human stung by Ikan Patin, not like its close relative the catfish. Catfish has been known to cause injuries as reported in Hong Kong where their stings and envenomation are common because people encounter a wide variety of marine fish during food handling, fishing and diving.[2] Other common venomous fish stings that require medical treatment include injuries by stingray and scorpion fish i.e. stonefish, lionfish, and waspfish.[3] Most of the species of fish inflicting painful or even dangerous stings by means of its dorsal or caudal spines (stingray) has a complex venom glands in their dorsal spine(Figure 3).

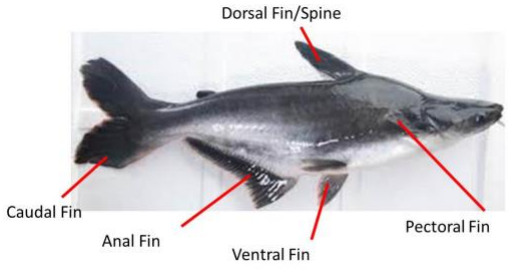

Figure 3: The morphology of Ikan Patin[5].

Although most of the injuries have no complication, there is still a certain risk of severe local and systemic toxicity, particularly in stonefish venom.[6]

The case we reported occurred at home when the child handling the fish accidentally dropped it on to his right foot. The fish dorsal spine pierced the child's foot but fortunately the particular fish has no known venom in its dorsal spine. The dorsal spine of the fish broke off from the fish body and left impaled on the child's foot. The attempt to remove the fish dorsal spine failed due to the nature of the spine which has a serrated edge and thus pulling it out from its entrance wound would have made the wound more extensive.

Operatively we were able to avoid further injury by making an incision through the web space and removing the foreign body in a controlled setting and furthermore ensuring that we did not leave any segment that may have been broken off. The wound was then thoroughly cleaned with povidone solution and inspected for any remnants of foreign body. This will ensure that the wound is free of any harmful pathogens for example as reported by Gary Huang et al, where they were able to isolate *Proteus vulgaris* and *Morganella Morganii* .[6]

Conclusion

The likelihood to be injured by Ikan Patin's dorsal spine is very rare. Removal of the serrated dorsal spine in a controlled setting as well as a thorough wash will prevent complication such as injury to the surrounding structures and infections.

References

1. Available from: https://www.fishlore.com/profile-iridescentshark.htm
2. Chan et al. Venomous fish sting in Hong Kong, Hong Kong j. emerg. med.Vol. 17(1) Jan 2010; 40-44
3. Tam G, Ng H, Chau C, Chan T, Chan A, Mak T, et al. Venomous fishes - they sting !!! Hong Kong Poison Control Network 2007; Nov; 2(3).
4. Cook GC, Zumla AI. Philadelphia, PA: Saunders/Elsevier; 2009. Manson's Tropical Diseases; pp. 38–59.
5. Available from: https://www.pertanianku.com/morfologi-ikan-patin/
6. Lee JY, Teoh LC, Leo SP. Stonefish envenomation of the hand - a local marine hazard: a series of 8 cases and review of the literature. Ann Acad Med Singapore 2004; 33(4): 515-20.