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CASE REPORT:

SNAKE SEA CUCUMBER ENVENOMATION IN THE PACIFIC – A CASE REPORT.

Running title: Sea cucumber envenomation

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ABSTRACT:
Envenomation with the snake sea cucumber is rare, mild and needs to be excluded from envenomation by the banded sea krait which is much more serious and potentially lethal.

Keywords: Envenomation, Pacific, snake sea cucumber, banded sea krait

An 8-year-old boy was playing in shallow water on the Coral Coast, Viti Levu, Fiji. He felt sudden severe pain on his arm and noticed what was initially thought to be a sea snake. The banded or yellow-lipped sea krait (*Laticauda colubrina*) is commonly seen around reefs in the Pacific, is highly venomous with a neuromuscular toxin which is potentially lethal if immediate resuscitation is not available. However, envenomation by the banded sea krait is extremely rare compared with land snakes and it is very timid and not aggressive [1].

Envenomation with sea snakes produces clinical effects in 20% of bites with death in 3%. It occurs most commonly in fishermen emptying nets or handling fish [1].

In this case, the boy had no onset of ptosis, blurred vision, dizziness, vomiting, dyspnoea or neuromuscular dysfunction but had severe pain over the arm, hand and foot which had been in contact, and quickly developed a localised erythematous rash. Pain was worse with washing with vinegar and clean water but settled over one hour with washing with salt water, and oral paracetamol 750mg and oral cetirizine 10mg. The rash settled within several hours and there were no skin changes the next day. There was no change to urine colour.

Immediate identification showed this envenomation was a 1m snake sea cucumber (*Synapta maculata*) which can be up to 2.5m

long (see Figure 1). These are commonly found throughout the Indo-Pacific and envenomation is very rare. These are a holothuroid and are an important group of detritivores in coral reef eco-systems. They have 15-16 perioral tentacles and feed almost continuously. Each tentacle is approximately 2.5cm in length and have vesicular cells in the epidermis but their function is unknown, and it could be a defensive toxin [2]. *Synapta maculata* also contain glycosides which have been shown to be cytotoxic against tumour cells [3].

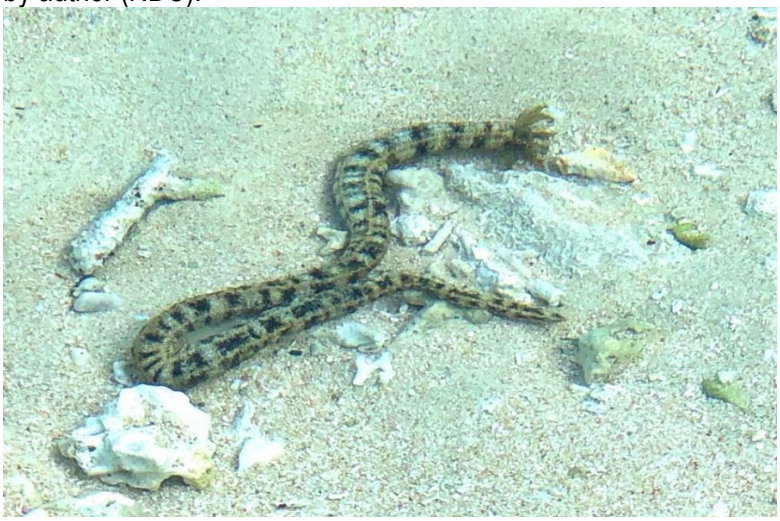
The painful sting of the snake sea cucumber is similar to what is experienced with a bluebottle (*Physalia physalis*) sting in terms of duration and treatment. Correct identification that the bite is not a sea snake is extremely important as to immediate treatment and resuscitation. Diagnosis of sea snake bite can be difficult with bite marks being very small, with symptoms taking 1-2 hours to develop and may require tracheal intubation and mechanical ventilation, often in remote areas. There is a noticeable geographical venom variation in the sea krait throughout the western Pacific, Indonesia and Indian ocean [4].

Current snake venom detection kits do not include sea snake venom [1].

Acknowledgement: The patient's mother gave written consent for publication.

Competing interest: No relevant disclosures

Figure 1. Snake sea cucumber (Synapta maculata) – photograph by author (NDC).



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