

## Jellyfish envenomation in an ocean swimmer

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A healthy 28-year-old man presented to the Emergency Department (ED) one hour after the sudden onset of sharp, right-sided leg pain that occurred while swimming in the North Atlantic Ocean. He also reported shooting pains radiating toward the groin, worsened by weight-bearing and walking. On examination, he was afebrile with a mild tachycardia and hypertension. Several curvilinear, urticarial lesions, surrounded by a 3 cm by 15 cm region of erythema, were seen on the right lower extremity (Fig. 1). The clinical picture was consistent with a jellyfish sting.

Cnidariae, which include jellyfish, possess specialized stinging apparatus called nematocysts, which are concentrated on the tentacles, and which rapidly deliver venom. Cnidarian envenomation should be suspected and treated in patients with painful pruritus after sea-bathing, even if the organism is not directly observed. When left untreated, jellyfish stings may result in scarring, anaphylaxis, or even death in some cases due to a syndrome of systemic pain, hypertension, cardiotoxicity, and pulmonary edema [1]. Species with the most potent venoms largely inhabit Indo-Pacific waters, but this potentially fatal reaction has been reported on the US coast [2].

Current evidence supports treating jellyfish stings by mechanically scraping the lesions to remove embedded nematocysts, and irrigating the area involved with hot

water to deactivate heat-labile venoms [3, 4]. Acetic acid is thought to inactivate the nematocysts of diverse species, and to inhibit the discharge of venom, but its clinical effectiveness has been contested [5]. Because most jellyfish envenomation cases occur in remote locations, emergency personnel should recognize local marine fauna, and direct empiric treatment to these species after suspected stings.

The patient did not recall seeing the organism. Scrapings of the wound contained numerous visible nematocysts. The wound was irrigated with an 8 % acetic acid solution, and a topical steroid was applied for symptomatic relief. At 10-day follow-up, the lesions had resolved with moderate post-inflammatory hyperpigmentation, and the radiating pain had subsided.



**Fig. 1** The patient's injury at presentation. Curvilinear, urticarial lesions with local erythema in the setting of ocean swimming are pathognomonic for jellyfish envenomation

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