

# Caribbean itch

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A 25-year-old man came to the office in July after awakening with a pruritic rash on his chest, back, and abdomen. He reported feeling feverish with chills and malaise, but had no symptoms of respiratory distress and his vital signs were normal. He mentioned that he had gone snorkeling in the Caribbean the previous day, but did not remember being stung by any marine life. He said he

was wearing swimming trunks and a t-shirt while in the ocean.

The patient had a diffuse erythematous maculopapular rash on his neck, chest, back, abdomen, shoulders, and axillae (**Figures 1 and 2**).

## ■ WHAT IS THE MOST LIKELY DIAGNOSIS?

**FIGURE 1** Rash on abdomen



*A rash erupted on the patient's abdomen, neck, chest, and back after he swam in the Caribbean.*

**FIGURE 2** Macules



*Close-up of macules on patient's skin. The patient also reported feeling feverish, with chills and malaise.*

## ■ SUBMITTING IMAGES TO PHOTO ROUNDS

Do you have images (slides, prints, digitized photos) of compelling clinical cases of interest to family physicians? We would like to publish them, along with a brief description of the clinical presentation and a diagnostic question for readers. The case should include information on the differential diagnosis and treatment, the latter applying an evidence-based approach supported by current references. Submit electronic files to [richard.usatine@med.fsu.edu](mailto:richard.usatine@med.fsu.edu), or send high-quality slides and prints to:

Richard P. Usatine, MD, Editor, Photo Rounds, Florida State University College of Medicine, Call Street and Stadium Way, Tallahassee, FL 32306-4300

### Prevention of Seabather's eruption

- Listen to local beach reports and observe posted beach messages in affected areas.
- Avoid ocean activities in areas where cases have been reported, especially during the peak season, April through July.
- Avoid wearing t-shirts while swimming. Women should consider wearing 2-piece bathing suits. These measures decrease the surface area over which larvae can be trapped. (Of course, swimmers should use potent sunscreens and carefully limit sun exposure to avoid sunburns when more skin is exposed to the sun. Some evidence suggests that the use of a sunscreen may actually protect skin from penetration by the nematocysts.)<sup>8</sup>
- Wetsuits with restrictive cuffs may be of benefit when surfing or diving.
- When swimming in areas where recent cases have occurred, change swimwear quickly after exiting the water. Do not shower with fresh water while still wearing the suit, because this may cause nematocysts trapped inside to discharge. Wash swimwear with detergent and heat-dry before wearing again. Air-dried nematocysts may still be able to fire.<sup>4,8</sup>

#### ■ DIAGNOSIS: SEABATHER'S ERUPTION

Seabather's eruption is a pruritic dermatitis that occurs predominantly on areas covered by a bathing suit or shirt after swimming in saltwater. Cases have been reported in Florida, Bermuda, the Caribbean, and as far north as Long Island, New York.

Larvae of members of the phylum Cnidaria are believed to be the cause of this dermati-

tis.<sup>1,2</sup> Cnidaria include hydrozoans (fire coral and Portuguese man-of-war), scyphozoans (true jellyfish), and anthozoans (sea anemones). The condition is sometimes called sea lice, although the organisms have no relationship to lice.

All Cnidaria have microscopic envenomation capsules called nematocysts. Each capsule contains a folded, eversible tubule containing a variety of toxins. Skin contact or chemical stimulation of the triggering apparatus leads to a build-up of hydrostatic force, resulting in eversion of the tubule. Toxins pass across the tubule membrane and are deposited into the skin.

#### ■ CLINICAL COURSE

Onset of seabather's eruption generally occurs within a few minutes to several hours after the swimmer leaves the water. A pruritic maculopapular rash, occasionally with urticaria, spreads across the skin of the chest, abdomen, neck, axillae, and the flexor surfaces of the arms and legs. The rash may be accompanied by systemic symptoms of malaise, headache, fever, chills, nausea, and vomiting. The dermatitis often lasts 3 to 7 days, but more severe reactions can last up to 6 weeks.<sup>3</sup>

#### Are immunological mechanisms responsible?

Tomchik et al<sup>4</sup> observed several cases of secondary eruptions that occurred 5 to 10 days after initial exposure. They also reported cases in which urticarial lesions developed 3 weeks after onset of illness, following a disease-free interval during which there was no re-exposure to ocean water. The lesions were seen in the same areas as the initial eruption.

This suggests that immunological mechanisms are responsible for the various clinical courses observed, which would explain the lack of symptoms immediately after exposure, delayed onset of the dermatitis, urticaria among sensitized individuals, and the ability of

**FIGURE 3** Thimble jellyfish

All 3 swimming stages of the thimble jellyfish cause seabather's eruption. (Photograph courtesy of Rich Galiano.)

steroids to suppress the reaction.

A prospective cohort study of cases in Palm Beach County, Florida, concluded that persons with a history of exposure to the condition, children, and surfers were at greatest risk for seabather's eruption.<sup>5</sup>

#### ■ CULPRIT:

##### THE THIMBLE JELLYFISH

The cause of seabather's eruption in South Florida and the Caribbean has been identified as the larvae of *Linuche unguiculata*, or the thimble jellyfish. The adult *Linuche* (Figure 3) measure 5 mm to 20 mm. They breed between March and September, and the larvae measure about 0.5 mm in diameter, making them invisible to the naked eye.<sup>4</sup>

These larvae are washed toward the shore by high tides or strong winds. They are small enough to pass through the weave of most swimwear, becoming trapped against the skin.

Pressure applied to the skin or changes in osmotic pressure—by evaporation of seawater or showering in fresh water—cause the larvae to discharge their toxin into the skin.<sup>6</sup>

In a study of cases of seabather's eruption in the Mexican Caribbean, Segura-Puertas et al<sup>7</sup> found that all 3 swimming stages of *Linuche* (ephyrae, medusae, and larvae) to cause the eruption.

#### ■ TREATMENT: ANTIHISTAMINES, TOPICAL STEROIDS

Seabather's eruption can be treated with sedating or nonsedating antihistamines (level of evidence [LOE]=5). While sedating antihistamines may be more antipruritic and less expensive, they should be used with caution if sedation may pose a danger to the patient.

Topical steroids, such as hydrocortisone, may be beneficial. Systemic steroids are reserved for only the most severe reactions. Comfort measures, such as oatmeal baths, may provide some relief of the itching (LOE=5).<sup>4</sup>

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