Letter to the Editor

Physalia physalis: A Colonial Hybrid, Not a True Jellyfish

Dear *Cutis*®:

In the letter to the editor, "Erythema Nodosum Currently Is Not a Proven Complication of Jellyfish Stings" (*Cutis*. 2008;81:323),[1] which comments on "Aquatic Antagonists: Portuguese Man-of-war (*Physalia physalis*)" (*Cutis*. 2007;80:186-188),[2] Drs. Burnett and Elston provide interesting arguments both for and against the association of jellyfish stings and the occurrence of erythema nodosum. I believe there is a continuum of skin reactions to jellyfish envenomation beginning with acute toxic reactions and their immediate consequences, and progressing to persistent delayed reactions identified as a delayed type of cell-mediated immunity. Interestingly, serum levels of IgG and IgE are within reference range in the persistent delayed reactions. Furthermore, cross-reacting antibodies to jellyfish and hydroids do exist, at times making it difficult to identify the existing coelenterate. For example, patients have been described with cross-reacting antibodies to *P physalis* (the Portuguese man-of-war) and *Pelagia noctiluca* (mauve stinger). True identification of the organism responsible for an aquatic injury at times may require identification of the nematocyst, highlighting the importance of specimen retrieval when possible. Finally, I would like to add that the Portuguese man-of-war is not a true jellyfish but rather a hydroid of the class Hydrozoa, whereas true jellyfish are of the class Scyphozoa.

Sincerely,
Patrick T. Ottuso, MD
Vero Beach, Florida

The author reports no conflict of interest.

REFERENCES

1. Burnett JW. Erythema nodosum currently is not a proven complication of jellyfish stings [letter]. *Cutis*. 2008;81:323.
2. Elston DM. Aquatic antagonists: Portuguese man-of-war (*Physalia physalis*). *Cutis*. 2007;80:186-188.

Author Response

I agree with Dr. Ottuso's thoughtful comments. I am pleased that the article has generated so much discussion.

Sincerely,
Dirk M. Elston, MD
Danville, Pennsylvania

The author reports no conflict of interest.

Author Response

I agree with all points raised by Dr. Ottuso. My purpose in composing the initial letter[1] was to stress that the case reported to be erythema nodosum was not that entity.[2] The patient was not seen by a dermatologist and a biopsy was not performed. Additionally, the linkage between this case and a cnidarian sting was absent. The jellyfish was not seen in the water or on the nearby beach, and, most importantly, the patient did not experience pain or a rapidly appearing rash, findings that are present in cases of jellyfish envenomation. I have no way of diagnosing the patient's eruption, but it did not seem to be a case of jellyfish-induced erythema nodosum. The moral of the story is to read the article, not just the title.

Dr. Ottuso also is correct in his assessment that a spectrum of acute toxic reactions (the most common events) following jellyfish exposure and delayed reactions mediated by cellular immunity to venom components can occur.

The serum immunoglobulin assays reported in the case report[2] were conducted in my laboratory with our antigens. All that can be concluded from the serologic test results is that the patient had prior exposure to *Physalia*, not an uncommon finding for a bather on beaches in the southern United States. Cross-reactions between jellyfish and hydroid (*Physalia*) antibodies often do occur, as prior publications have stressed.[3,4] Indeed, we often have tested patients with antibodies to both *Pelagia* and *Physalia* species. This patient would have had to travel to be exposed to the former, which is not uncommon today. Accurate identification of a true cnidarian

can be made by identification of the nematocyst or characteristic morphologic traits, such as the sea blue color of *Physalia physalis*, which would be distinctive in American waters.

Dr. Ottuso also is correct in his classification of a true jellyfish. Complicating this matter is the fact that the public regards *P physalis* as a jellyfish.

Again, let me emphasize my main points. We do not know that the patient reported by Auerbach and Hays[2] was stung by a marine creature and we do not have firm evidence of erythema nodosum. Therefore, this case cannot be used to claim linkage. Unfortunately, in this era of electronic retrieval of medical information, emphasis and conclusions are made on the article title or abstract rather than the text.

Sincerely,
Joseph W. Burnett, MD
Baltimore, Maryland

The author reports no conflict of interest.

REFERENCES

1. Burnett JW. Erythema nodosum currently is not a proven complication of jellyfish stings [letter]. *Cutis*. 2008;81:323.
2. Auerbach PS, Hays JT. Erythema nodosum following a jellyfish sting. *J Emerg Med*. 1987;5:487-491.
3. Radwan FFY, Burnett JW, Bloom DA, et al. A comparison of the toxinological characteristics of two *Cassiopea* and *Aurelia* species. *Toxicon*. 2001;39:245-257.
4. Olson CE, Heard MG, Calton GJ, et al. Interrelationships between toxins: studies on the cross reactivity between bacterial or animal toxin and monoclonal antibodies to two jellyfish venoms. *Toxicon*. 1985;23:307-316.