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Case Report

Eosinophilic pneumonia associated with foot injury from a sea urchin☆

Hypersensitivity reactions after sea urchin (echinoderm) "spine injuries" have been described. Most often these reactions are local granulomatous nodules or rashes. We describe a case of eosinophilic pneumonitis without any clear cause in a patient who stepped on a black sea urchin a day before the onset of symptoms. A 21-year-old man developed a severe eosinophilic pneumonia 3 days after stepping on a sea urchin. His condition required mechanical ventilation and prolonged hospitalization, but ultimately he recovered without sequelae. We describe a case of severe eosinophilic pneumonitis associated with black sea urchin exposure. In marine environments, sea urchins as a possible cause of eosinophilic pneumonitis should be considered.

Hypersensitivity reactions after sea urchin (echinoderm) "spine injuries" have been described [1,2]. Most often these are local granulomatous nodules or rashes. We describe a case of eosinophilic pneumonitis without any clear cause in a patient who stepped on a black sea urchin a day before the onset of symptoms.

A 21-year-old man arrived at the emergency department (ED) with fever, headache, and 3 days of shortness of breath and cough. He had no significant medical history, was taking no medications, and denied alcohol use. He smoked tobacco occasionally but had not recently changed his tobacco use pattern. His travel history was noncontributory. He denied recent unpurified freshwater exposure. He noted stepping on a black sea urchin while swimming in the ocean 3 days before presentation. In the ED, he had a temperature of 100.7°F, blood pressure of 122/59 mm Hg, pulse of 98 beats/min, respiratory rate of 36 breaths/min, and pulse oximetry value of 84%. His chest radiographs demonstrated a diffuse, patchy, interstitial, infiltrative pattern (see Fig. 1). His examination was notable for diffuse rhonchi, respiratory distress, and areas of black tattooing on the plantar surface of his foot consistent with his recent sea urchin injury. No cellulitis was noted. The patient underwent computed tomography of his head and a lumbar puncture, which were unremarkable. Blood cultures, urine cultures, and cultures for tuberculosis, leptospirosis, mycoplasma, *Hantavirus*, and fungal pathogens were negative. HIV test result was negative. Bronchioalveolar lavage confirmed an eosinophilic process. The patient developed increased respiratory distress and required intubation. He received broad-spectrum antibiotics as well as methylprednisolone. His condition improved over 10 days, and he was discharged on hospital day 13.

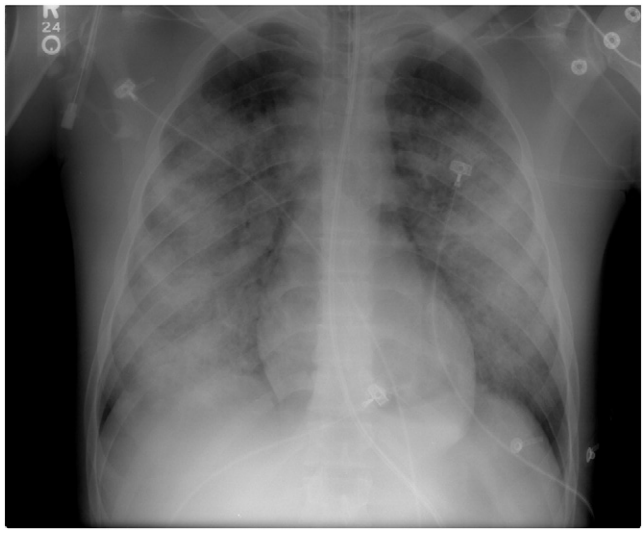

Fig. 1 Chest radiograph.

Eosinophilic pneumonic processes are a diverse group of disorders characterized by eosinophilic pulmonary infiltration in association with other inflammatory cells, which are usually responsive to corticosteroid therapy [3]. Often, the cause cannot clearly be elucidated. Sea urchins have been noted to cause both acute and delayed hypersensitivity [1,4]. Despite the wide range of possible etiologies, no other plausible cause could be identified in this case.

We describe a case of severe eosinophilic pneumonitis associated with black sea urchin exposure. In marine environments, sea urchins as a possible cause of eosinophilic pneumonitis should be considered.

This study was presented as an abstract at the North American Cogress of Clinical Toxicology, Montreal Canada 2001.

☆ This work has not been published elsewhere.

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References

[1] Asada M, Komura J, Hosokawa H, Akaeda T, Asada Y. A case of delayed hypersensitivity reaction following a sea urchin sting. Dermatologica 1990;180(2):99-101.
[2] Burke WA, Steinbaugh JR, O'Keefe EJ. Delayed hypersensitivity reaction following a sea urchin sting. Int J Dermatol 1986;25(10):649-50.
[3] Miltgen J, Nguyen Hy Thuy G, Gueguen E, Cuguilliere A, Bonnet D. The eosinophilic lung. Med Trop (Mars) 1998;58(4 Suppl):447-53.
[4] Valentine GH. Hypersensitivity after a sea urchin sting. Br Med J (Clin Res Ed) 1982;285(6355):1656.