

Zosteriform Skin Lesions Due to Sea Urchin Allergy - A Case Report

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Abstract: Several allergic manifestations due to sea urchins are reported in the literature. Allergy due to consumption of gonads (roe) of sea urchins in some people is well known. Accidental stepping on this spiny creature, near the shallow rocky places of the sea which is its habitat, causing allergy has been reported. Workers employed in the roe production units, fishermen and scuba divers are at special risk. Researchers working on sea urchins are no exception as evidenced by this report. A new allergic manifestation i.e. zosteriform skin eruptions due to sea urchin *Stomopneustes variolaris* is described. The need to differentiate from other serious zosteriform lesions is emphasized. The role of epidemiological history in the diagnosis of a zosteriform rash is stressed.

Key words: Sea Urchin % Zosteriform % Allergy % Gonads

INTRODUCTION

Several allergic manifestations due to sea urchins are reported in the literature. To cite a few examples-anaphylaxis due to roe consumption [1], local allergic reactions due to accidental sea urchin prick [2], serum sickness-like reactions, urticaria and food poisoning. The underlying mechanisms reported were Type-1 hypersensitivity or anaphylactic hypersensitivity [3], Type-2 hypersensitivity or cytotoxic hypersensitivity and Type-4 or delayed hypersensitivity. Immunological response in human beings to various sea urchin parts is thus well established. The present case report is unique in the sense that the allergy manifested as a zosteriform lesion that occurred accidentally in research scholar working on sea urchin *Stomopneustes variolaris*.

The Case Report

The Back Ground: During studies on sea urchin *Stomopneustes variolaris*, (Fig. 1), a research scholar of the department of Marine Living Resources of Andhra University, Visakhapatnam, accidentally developed a rash over the lower limb. The rash was initially diagnosed depending on morphology and distribution as herpes zoster, a viral disease by a dermatologist. The rash was even treated with a course of acyclovir, an antiviral antibiotic [4]. The rash reoccurred each time the sea



Fig. 1: Sea urchin *Stomopneustes variolaris*



Fig. 2: Zosteriform lesions on the abdomen due to sea urchin *Stomopneustes variolaris* allergy

urchins were handled, but not during the exposure-free periods. Thus a cause and effect between the rash and the sea urchin allergy could be established on clinical and epidemiological grounds. Handling the sea urchin with rubber gloves prevented further episodes lending further support to this contention (Fig. 1).

The Rash: Within 48 hours of exposure to the sea urchin, the skin eruption started with itching, pain and erythema followed by grouped vesicular eruptions, in dermatomal distribution over the lower limb. The researcher also initially felt itching and redness on the fingers. The evolution of the rash completed in 3-4 days and lesions lasted up to 7 to 10 days. The lesions healed without scar or pigmentation. Oral anti-histaminics were used in addition to a course of acyclovir [5]. The pain did not persist after the lesions healed. On subsequent exposures also, the typical zosteriform rash appeared on different sites i.e. on the chest and abdomen which healed with the application of topical steroid alone [6]. The rash thus closely mimicked clinically, the rash of herpes zoster earning the name zosteriform rash in conformity with other conditions producing similar rash (Fig. 2).

DISCUSSION

The allergic rash due to sea urchin *Stomopneustes variolaris* resembles morphologically the viral skin disease, herpes zoster, with which it can be confused clinically. Reoccurrence of similar lesions is against the diagnosis of herpes zoster. Also the patient did not have any immunosuppressive condition that could cause recurrent herpes zoster. The epidemiological history strongly favors sea urchin allergy. Hence an epidemiological consideration gives vital clues in differentiation from the herpes zoster on one hand and more serious zosteriform eruptions on the other. Zosteriform lesions described in the literature resemble in either the morphology only, or dermatomal distribution pattern or both features. The diagnosis in this case was mainly clinical, depending on the morphology and distribution of the lesions, on epidemiological grounds and exclusion of other conditions causing zosteriform eruptions. Patch test done with aqueous extract of powdered sea urchin spines was positive suggesting delayed hypersensitivity as the underlying mechanism. Review of literature showed that it is the first of its kind to be reported in the species under consideration. An itchy erythematous rash due different species to sea urchin on the legs was described in the literature [2] which was considered due to delayed hypersensitivity. The clinical significance of this report is that at least in some cases it needs to be considered as differential diagnosis when dealing with other zosteriform lesions. Other such reported zosteriform skin lesions are of grave significance, for example those due to lung cancer [7], gastrointestinal tract cancers [8], ovarian cancer [9], carcinoma of breast

[10] and B- cell leukemia [11] etc. Lack of awareness of this entity among clinicians may lead to erroneous diagnosis and disastrous treatment consequences. Hence the need to consider the epidemiological history of exposure to sea urchin contact in dealing with any zosteriform lesions especially in those persons who are at special risk for sea urchin allergy.

CONCLUSION

A new allergic manifestation i.e., zosteriform skin eruption due to sea urchin *S. variolaris* is described. The need to differentiate from other serious zosteriform lesions is emphasized. The role of epidemiological history in the diagnosis of a zosteriform rash is stressed.

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