Brief Toxicology Observation: What Kind of Burger Did This Patient Eat?

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Clinical Vignette

Ninety minutes after eating a mahi-mahi sandwich at a “gourmet” hamburger restaurant, a 52-year-old man developed a diffuse erythematous non-pruritic urticarial rash, without wheal, over his trunk, face, and proximal arms and legs with scattered areas of sparing over his abdomen and back (Fig. 1). This was accompanied by one episode of watery stool but no nausea or vomiting. The rash faded after 25 mg of oral diphenhydramine but returned 45 min later to its original intensity. A

second oral 25 mg dose of diphenhydramine resulted in complete resolution without further recurrence.

Scombroid fish poisoning occurs primarily due to the improper storage and handling of certain fish. Enteric bacteria in the fish decarboxylate histidine into histamine, ingestion of which is responsible for the symptoms. The syndrome of rash, nausea, vomiting, pruritus, and headache responds well to antihistamine treatment and typically resolves within 6–8 h. Some patients may exhibit light-headedness or syncope due to systemic vasodilatation. The rash is commonly described as

Fig. 1 A diffuse erythematous non-pruritic urticarial rash

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being sunburn-like in appearance, and found from the “nipples up” although this is based on a series of six cases from 1979 and is not always true as in our case [1]. Scombroid poisoning was first described with the dark muscle fish of the Scombridae and Scomberesocidea family (e.g., tuna, mackerel, skipjack) due to high concentration of free histidine in their tissue. However, non scombroid fish like mahi-mahi are a more commonly implicated species [2, 3]. After an episode, patients may often falsely believe they are allergic to fish. A careful history including any symptoms in others consuming the same meal, as well as lack of previous reactions to the same fish, can help make the correct diagnosis of scombroid fish poisoning. While testing the suspected fish for histamine can provide definitive

proof, in practice it is often not feasible, possible, or necessary.

References

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