

## **Acute Shellfish Allergy: Is Any Work-up Necessary?**

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### **Story from the frontlines:**

A man in his 50's with a past medical history of shellfish allergy presented to the Emergency Department complaining of neck swelling and rash. He reported a similar reaction after consuming shellfish in the past. He denied any difficulty breathing, gastrointestinal symptoms, or history of anaphylaxis. He reported consumption of scallops prior to arrival. He was discharged home without medications and returned the following day complaining of worsening swelling, facial rash, and itching. He was found to have predominantly right sided swelling and lymphadenopathy on exam, and despite his insistence that this was similar to his prior allergic reactions, the patient underwent lab testing including a complete blood count and a CT scan of his neck and soft tissues to rule out an abscess. Labs and CT scan were unremarkable. Treatment with diphenhydramine and prednisone were administered and the patient was discharged home.

### **Teachable Moment:**

Allergic reactions in the absence of anaphylaxis are both distressing to patients and can be puzzling to clinicians. Food allergy itself is defined as an adverse reaction which occurs through either IgE-mediated or non-IgE mediated mechanisms and recurs on repeat exposure to a particular food.<sup>1</sup> Reactions can be mild, including cutaneous reactions, such as urticaria, angioedema, and atopic dermatitis, to severe anaphylactic shock and death. Shellfish allergy commonly has an onset in adult life and is the most commonly recognized food allergy amongst the adult population.<sup>1</sup> Evidence describing the prevalence of patients with self reported food allergy found a 0.6% incidence of adult shellfish allergy, determined by either positive skin prick testing or serum IgE. Additionally, this study noted patient report of personal shellfish allergy to be as high as 10%, reflecting a public perception of wide variation in the definition of food allergy.<sup>2</sup>

In this case, the patient presented with unilateral swelling of the neck and face. The differential of angioedema includes infectious and inflammatory etiologies, however in the setting of urticaria, this form is especially suggestive of an allergic reaction.<sup>4</sup> The diagnosis of food allergy should be suspected when symptoms such as anaphylaxis, erythema, pruritis, urticaria, angioedema, or respiratory or gastrointestinal symptoms develop within minutes to hours of

food ingestion. This is especially true if these symptoms have developed with prior ingestion of a similar food.<sup>1</sup>

The guidelines for diagnosis of IgE-mediated food allergy suggest using medical history and physical exam to assist the clinician in obtaining a focused diagnostic work-up. The only diagnostic testing recommended in the acute setting includes serum tryptase levels, and the evidence underpinning this is weak.<sup>1</sup> CT imaging in this case was unlikely to lead to meaningful changes in management and exposed the patient to the harms of radiation, incidental findings and delay in the treatment he needed for his allergic reaction.

The principal management strategy in food allergy involves avoidance of the specific allergen. While this has never been demonstrated in randomized control trials, this represents the safest method of preventing adverse reactions to food.<sup>1</sup> Antihistamines remain the primary medication of choice to manage mild hypersensitivity reactions to food. For anaphylactic reactions, prompt recognition of diagnosis is essential and management includes use of epinephrine.<sup>1</sup> As in the case with our patient, milder symptoms of urticaria and angioedema should be managed with H1 and H2 antihistamine medications.<sup>3</sup> The patient should be monitored for progression of symptoms and administered epinephrine promptly in the setting of increased severity. The guidelines also suggest administration of epinephrine early in the course of symptom development for patients who have had a prior severe allergic reaction.<sup>1</sup>

This case highlights the importance of obtaining a thorough medical history and tailoring the physical exam based on a patient's symptoms. In most cases, the history alone will guide our diagnostic testing, if at all necessary, and lead to appropriate management.

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1. Boyce, Joshua A et al. Guidelines for the diagnosis and management of food allergy in the United States. *J Allergy Clin Immunol.* 2010 Dec; 126(6 0): S1–58.
  2. Rona, RJ et al. The prevalence of food allergy, a meta-analysis. *J Allergy Clin Immunol.* 2007 Sep;120(3):638-46
  3. Runge, JW et al. Histamine antagonists in the treatment of acute allergic reactions. *Ann Emerg Med.* 1992 Mar;21(3):237-42.
  4. Busse, PJ. Angioedema: differential diagnosis and treatment. *Allergy Asthma Proc.* 2011 Sep-Oct;32 Suppl 1:S3-11