The full report is titled: "Cross-reactivity and masqueraders in seafood reactions" It is in the November-December 2013 issue of ***Allergy Asthma Proceedings*** (volume 34, pages 497 to 503). The authors are Banks TA and Gada SM.

For the Patient is provided to the physicians so that the patients can better understand the language of modern medicine.

CROSS-REACTIVITY AND MASQUERADERS IN SEAFOOD REACTIONS

What is the Problem and What is Known About it so Far?

Seafood allergy is a type of food allergy directed to dietary components found in shellfish, scaly fish, or crustaceans, referred to as food antigens that cause an overreaction of the immune system, which, for millions of people, may lead to severe allergic symptoms including anaphylaxis. The magnitude of these seafood reactions in patients is further amplified by the fact that the offending antigen found in one seafood may also be simultaneously present in several other seafood, a phenomenon referred to as cross-reactivity which may lead to confusion as to the cause of the seafood reaction for both the patient and the clinician. Moreover, although most reactions are caused by an allergic hypersensitivity reaction triggered by excessive production of allergy-producing IgE antibody molecules, some reactions are caused by non-IgE mediated reactions. These non-allergic food hypersensitivities play a significant role in initiating a wide variety of adverse reactions to seafood and can masquerade as true allergic reactions. They range from seafood intoxications caused by chemicals found in fish such as histamine to other non-allergic or complex seafood reactions, caused by fish parasites found in raw or undercooked fish and represent events that can easily be misconstrued as representing a seafood IgE-mediated allergy. A knowledge of these various causes of seafood reactions is important in accurately evaluating and managing patients with reported seafood reactions.

Who or What was Studied?

The researchers reviewed published studies from the literature of patients with seafood allergy in which various mechanisms were sought.

How was the Study Done?

Researchers examined available studies of patients from the standpoint of the various causes of suspected seafood allergy differentiating those caused by IgE-mediated allergy to one type of fish and cross reactions to other types of fish as well as those by other causative factors such as fish parasites, or toxic chemicals in fish resulting from lengthy transportation or poor handling issues.

What were the Limitations of the Study?

The major limitation of the study was the variability and limited focus of the studies reviewed.

What are the Implications of the Study?

Adverse reactions to seafood are a frequent occurrence in the general population, most of which are often attributed to a true food allergy. While a portion of patients will be diagnosed with an IgE-mediated hypersensitivity food allergy to the particular seafood in question, many reactions are caused by other factors which may masquerade as allergy. Given that seafood consumption in the United States (US) compared to other countries has moved from the third largest global consumer of seafood to second, this topic carries important implications. Health care providers and patients should become familiar with the implications of both masquerading conditions and issues surrounding cross-reactivity that are important in the management of patients who present with suspected seafood allergy.