

BET 2: IS THERE AN ASSOCIATION BETWEEN IODINE, SHELLFISH AND CONTRAST AGENT ALLERGIES?

Authors: Benjamin Long, Todd Chassee, Jeffrey S Jones
Affiliation: Spectrum Health/Michigan State University
 Emergency Medicine Residency Program, East Lansing,
 Michigan, USA

ABSTRACT

A shortcut review was carried out to establish whether having a shellfish or iodine allergy changed the risk of allergic reaction in patients receiving radiocontrast medium more than other concomitant allergies. One relevant

paper (a systematic review) was identified for inclusion using the reported search strategy. The author, date and country of publication; group studied; study type; relevant outcomes; results and study weaknesses of this paper are tabulated. It is concluded that there is no evidence that allergy to shellfish or iodine alters the risk of reaction to intravenous contrast more than any other allergies.

THREE-PART QUESTION

In (patients with iodine or shellfish allergies) is the (risk of an allergic reaction) more than that in patients with other allergies?

CLINICAL SCENARIO

An ED patient needs a CT angiogram to rule out a pulmonary embolism. The patient has a shellfish allergy noted on the medical record and you wonder if it is safe for the patient to receive intravenous radiocontrast.

SEARCH STRATEGY

Embase 1980 to 2019 Week 34, Ovid MEDLINE(R) 1966 to August Week 4 2019: [(contrast media/adverse effects OR contrast media reactions) AND (exp shellfish/adverse effects OR exp iodine/adverse effects OR exp food Hypersensitivity)]. Limit to English language.

SEARCH OUTCOME

Altogether 359 studies were identified and 1 systematic review article specifically addressed the clinical question. This is summarised in [table 2](#).

COMMENT(S)

Millions of imaging studies using radio-contrast media are conducted each year, providing vital information for patient care. Adverse reactions to contrast media are rare and are mostly dependent on the osmolar weight of the contrast media. The risk of reaction increases with a history of asthma or food allergy including eggs, milk, chocolate, fruit and seafood. Seafood does not predispose to a greater risk with regards to severity of reaction or incidence of reaction compared with any other allergies. Iodine is found throughout our bodies in thyroid

Clinical bottom line

There is no evidence that allergy to shellfish or iodine alters the risk of reaction to intravenous contrast more than any other allergies.

Table 2 Relevant paper(s)

Author, date and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses
Schabelman and Witting, 2010, USA ¹	6 articles were included	Systematic review	Risk of contrast reaction in all cases compared with persons with known allergies to seafood, food allergens, asthma and prior contrast reactions.	Allergies to seafood does not increase the risk of reaction to contrast any more than a history of other allergies or asthma.	Several studies are based on high osmolar contrast medium which has been largely replaced by low osmolar contrast medium

hormones and amino acids and cannot be an allergen.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; internally peer reviewed.

© Author(s) (or their employer(s)) 2019. No commercial re-use. See rights and permissions. Published by BMJ.

Emerg Med J 2019;**36**:698–699.
doi:10.1136/emered-2019-209162.3

REFERENCE

- 1 Schabelman E, Witting M. The relationship of radiocontrast, iodine, and seafood allergies: a medical myth exposed. *J Emerg Med* 2010;39:701–7.