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1: [AJR Am J Roentgenol.](#) 2008 Mar;190(3):666-70.

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Anaphylaxis to iodinated contrast material: nonallergic hypersensitivity or IgE-mediated allergy?

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OBJECTIVE: Contrast material is generally well tolerated although approximately 1% of patients who receive low-osmolar nonionic contrast material will develop anaphylaxis symptoms. Because most anaphylactic reactions are mild and nonallergic, clinically mimicking immunoglobulin E (IgE)-mediated allergy, diagnostic skin testing has been discussed controversially in the past and prophylactic pretreatment drug regimens are recommended instead. In the past 6 years, all patients with contrast material-induced anaphylaxis have been subjected to allergologic diagnostic procedures to clearly differentiate allergic and nonallergic anaphylaxis. Thus the purpose of our study was to identify and differentiate IgE-mediated allergy and nonallergic contrast material-induced hypersensitivity. Furthermore, the objective of our diagnostic procedures was not only to identify the culprit contrast material but also to find alternative contrast material for future radiologic interventions. **SUBJECTS AND METHODS:** We evaluated 96 patients with anaphylaxis symptoms after contrast material application using standardized intradermal skin testing. In patients with positive skin tests, the IgE-mediated allergy was further evaluated with in vitro and challenge tests. **RESULTS:** In four patients (suffering from anaphylaxis grades 2 and 3) out of the 96 (4.2%), skin tests and basophil activation tests strongly suggested IgE-mediated allergy to the contrast materials iopromide (two patients), iomeprol, and iopentol. In two patients with allergies to iopromide and iomeprol, alternative nonionic monomer contrast materials were tolerated, as identified in controlled challenge tests with iopamidol and iopromide, respectively. **CONCLUSION:** The evaluation of patients with contrast material-induced anaphylaxis (at least those with anaphylaxis > or = grade 2) should always include appropriate skin tests ensuring that patients with an IgE-mediated allergy are not missed. Moreover, allergologic testing may identify a contrast material of the group of nonionic monomers that will be tolerated in future radiologic interventions.

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