

# Extensive idiosyncratic allergic reaction to non-ionic, low osmolar small dose contrast in a patient premedicated with antihistamine and steroids

Apurva Vasavada, Navin Agrawal, Pritesh Parekh, Mahesh Vinchurkar

Department of Cardiovascular Sciences, Care Hospital, Surat, Gujarat, India

## Correspondence to

Dr Navin Agrawal,  
drnavinagrwal@gmail.com

Accepted 8 September 2014

## DESCRIPTION

Allergic response to iodinated contrast agents is a rare occurrence and is even rarer in non-ionic and low osmolar contrast agents.

We present an interesting case of an elderly hypertensive man with New York Heart Association (NYHA) class III angina and dyspnoea with no history of allergy. The patient was taken for a diagnostic angiogram during which he was administered 10–15 mL of non-ionic low osmolality contrast agent iohexol (320–330 mosm). The patient developed rashes all over his body within 1 min of administration of the contrast (figures 1–4). The patient had been premedicated with Avil (pheniramine maleate) and hydrocortisone, which is a part of our usual protocol in all patients. The patient had no evidence of laryngeal oedema and was managed with another dose of steroids and Avil after which his rashes subsided within minutes. The patient had multivessel coronary artery disease



**Figure 3** Urticarial rashes seen on the face and neck of the patient.

and was given the option of coronary artery bypass grafting or multivessel percutaneous coronary intervention.

In various studies of moderate-to-severe adverse reactions to non-ionic iodinated contrast media (ICM), the incidence was much less than 0.1%, while the incidence for ionic ICM was around 0.1%.<sup>1–3</sup>

Similarly, several large studies and meta-analysis have shown a much lower incidence of allergic reactions with low osmolar agents (0.1–0.2%).<sup>4,5</sup>

Premedication with steroids and antihistaminic are believed to decrease the incidence and severity of allergic reactions.

An extensive allergic response to a non-ionic, low osmolar contrast agent in a premedicated patient with no history of prior allergy is extremely rare.



**Figure 1** Extensive urticarial rashes seen on the arm of the patient.



**Figure 2** Urticarial rashes seen on the face and neck of the patient.



**Figure 4** Extensive rashes seen on the back of the patient.



CrossMark

**To cite:** Vasavada A, Agrawal N, Parekh P, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-205323

## Learning points

- ▶ Iodinated contrast media generally have a good safety record with a low incidence of adverse reactions, and allergic response is extremely rare.
- ▶ The incidence of adverse allergic reactions is even lower with non-ionic and low osmolar agents in patients without a history of any allergy, but yet, this calls for vigilance in all cases and preparedness for severe life-threatening allergy.
- ▶ Patients can have severe allergic response to contrast despite having been administered with steroids and antihistaminic drugs, which indicates that there is no room for complacency.

**Competing interests** None.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

## REFERENCES

- 1 Katayama H, Yamaguchi K, Kozuka T, *et al*. Adverse reactions to ionic and nonionic contrast media. A report from the Japanese Committee on the safety of contrast media. *Radiology* 1990;175:621–8.
- 2 Lasser EC, Berry CC, Talner LB, *et al*. Pretreatment with corticosteroids to alleviate reactions to intravenous contrast material. *N Engl J Med* 1987;317:845–9.
- 3 Wolf GL, Arenson RL, Cross AP. A prospective trial of ionic vs nonionic contrast agents in routine clinical practice: comparison of adverse effects. *AJR Am J Roentgenol* 1989;152:939–44.
- 4 Dillman JR, Strouse PJ, Ellis JH, *et al*. Incidence and severity of acute allergic-like reactions to i.v. nonionic iodinated contrast material in children. *AJR Am J Roentgenol* 2007;188:1643–7.
- 5 Caro JJ, Trindade E, McGregor M. The risks of death and of severe nonfatal reactions with high- vs low-osmolality contrast media: a meta-analysis. *AJR Am J Roentgenol* 1991;156:825–32.

Copyright 2014 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit

<http://group.bmj.com/group/rights-licensing/permissions>.

BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact [consortiasales@bmjgroup.com](mailto:consortiasales@bmjgroup.com)

Visit [casereports.bmj.com](http://casereports.bmj.com) for more articles like this and to become a Fellow