



Case Report

Contrast induced acute hypersensitivity reaction in a 10-year-old patient: A rare case study

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ABSTRACT

Background: Immediate skin rashes, flushing, or urticarial pruritus, rhinorrhea, nausea, short retching, and/or vomiting, diaphoresis, coughing, and vertigo are all symptoms of mild hypersensitivity reactions with an incidence of 3%.

Case presentation: A 10-year old male child presented with acute hypersensitivity reaction due to the contrast used during the CECT scan.

Discussion: Contrast should always be used in caution with children. Although most of them are acute and resolve with minimal treatment but few of these reactions may lead to fatalities.

Conclusion: Recognizing the type of contrast reaction is crucial to treating it. Rapid recognition of the signs and symptoms of a contrast response allows radiology personnel to quickly determine the type of reaction, allowing for faster treatment and reversal.

1. Introduction

Several reports of contrast-induced hypersensitivity reactions have been documented in recent years. So far, several Type-A (toxicity and side effects) and Type-B (hypersensitivity or allergic-like) reactions have been observed. Using a parent-completed questionnaire, Mikkonen et al. discovered 1.9% of children with acute adverse reactions and 6.2% of children with late reactions. According to the American College of Radiology the severity of reactions could be classified. Up to 70% of patients with reactions have skin and mucous involvement characterized by erythema and urticaria with or without angioedema [1] This case report has been reported in line with the SCARE Criteria [2].

2. Case report

A 10-year old male patient presented to Emergency department with complaints of rashes, itching and swelling all over the body.

The child was a known case of ASD closure. The child is otherwise active, but started complaining of abdominal pain since last 4 weeks for which he was given symptomatic treatment. Despite the treatment, he was having recurrent episodes of abdominal pain. He was then referred to higher center for further evaluation.

The child was presented to the out-patient center where the doctor

had prescribed an Ultrasound which revealed a sub-acute intestinal obstruction. To confirm the diagnosis, the consultant ordered for a CECT Abdomen. He was taken to the diagnostic center where he was given both oral and IV contrast agent, to which he promptly developed severe hypersensitivity reaction involving intense skin rashes, facial swelling and hypoxia (Fig. 1).

He was brought to the consulting hospital immediately through the ambulance. He was started with 5L of nasal oxygen and Inj.Hydrocortisone 100mg STAT, followed by once daily for 3 days; Inj.Amikacin 500mg BD for 3 days. The symptoms started improving and he was discharged in a stable condition. After a week, he came for review, was doing well and there were no signs of any itching and swelling.

3. Discussion

The precise cause of contrast-induced anaphylaxis responses is yet unknown. There are three types of patients- i) patients who are uneasy but calm usually have nausea, vomiting, hives, itching, and redness; ii) poorly responsive, subdued; or iii) unresponsive patients frequently are hypotensive or hypoglycemia. Hypoxia affects anxious or disturbed people owing to bronchospasm, airway edema, laryngeal edema, and perhaps pulmonary edema [3,4].

If a patient is experiencing itching and hives as a result of a cutaneous

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Fig-1. A showing immediate hypersensitivity reaction within 10 mins of IV contrast; B showing image when presented to hospital; C showing resolved reaction.

reaction as sole symptoms without airway compromise, it can be left alone or treated symptomatically. If the patient presents with hypoxia, IV fluids, oxygen, and drugs will be required. First, determine whether the patient has hypoxia or is simply worried. Look for any indicators of edema that can help you figure out how the patient’s airway is doing. Edema of the eyes, lips, and face are among the symptoms. The longer the hypoxia lasts, the more difficult it is to treat [3].

4. Conclusion

In children, hypersensitivity reactions to radiocontrast media appear to be very rare and is not fatal in most of the cases. So, in terms of the severity of these reactions, the use of radiocontrast agents in children remains quite safe, because pediatric guidelines are lacking, the diagnostic workup used in adults could be adapted to children. As a result, there is an urgent need for focus in this field, as well as the development of various individualized treatment and approaches for children on the use of contrast agents, because children are quite delicate to handle.

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Author contribution

All authors contributed equally.

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Guarantor

Nabeela Fatima.

Consent

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The authors have no conflicts of interest to declare.

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