

# A case of anaphylactic/anaphylactoid reaction to ondansetron injection

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## Abstract

This case report illustrates anaphylactic/anaphylactoid reaction in form of generalized rash and laryngospasm after administration of a single dose of 1mg ondansetron intravenously. It was used as a preanesthetic medication in a 7yr old female child with left sided pyothorax/fibrothorax posted for minithoracotomy (decortectomy). Awareness on this rare but fatal adverse reaction to this commonly used drug helps in early recognition and prompt management of event

**Keywords:** anaphylaxis, ondansetron.

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## INTRODUCTION

Ondansetron is a prototype 5HT<sub>3</sub> antagonist. This drug and its analogs are very important in prevention of nausea and vomiting associated with surgery and chemotherapy. Hypersensitivity reactions to ondansetron are rare but have been reported. The food and drug administration division of epidemiology and surveillance has received 78 potential cases of anaphylactic/anaphylactoid reactions to ondansetron in cancer patients<sup>1</sup>. Anaphylactic/Anaphylactoid reactions can vary with severity and presentation, but can be fatal if not promptly recognized and treated.

## CASE REPORT

A 7 yr old female child with left sided pyothorax/fibrothorax was posted for minithoracotomy (decortectomy) on 28/01/2014. All preoperative investigations were within normal limits( Hb-

13mg/dl, TLC-10,700Cells/cumm, platelet count-4.57 lakh/cumm, BT-1'40", CT-3'20", Blood urea 23mg/dl, serum creatinine-0.5mg/dl, RBS-102mg/dl, uric acid-3.6 mg/dl, Blood group-B Positive, HIV I and II- Non reactive, HB<sub>s</sub> Ag-Non Reactive). USG showed Loculated pus with thickened pleura. The child was given Inj hydrocortisone 0.5mg and Inj Ondansetron 1mg i. v. as part of preanesthetic medication. Patient developed generalized rashes, difficulty in breathing associated with tachypnea within minutes of administration of ondansetron. On examination of Respiratory system there was no air entry. Pulse rate-140 bpm irregularly irregular pulse, Blood pressure-140/80 mmHg. On ECG missed beats were seen. The child was diagnosed to have anaphylactic/anaphylactoid reactions presenting in the form of generalized rashes and laryngospasm to ondansetron injection. Child was managed by mask ventilation with 100% oxygen for 5min and inj Hydrocortisone 25mg i. v. With this treatment the Patients condition improved and she completely recovered from laryngospasm. Surgery was cancelled and posted for later date. She was asymptomatic at 72 hr follow up. There was no history of food and drug allergies. There was no family history of atopy, asthma and bronchitis. Skin test was not done and serum IgE levels were not measured. On Naranjos causality assessment scale adverse event was 6 indicating probable reaction. On Modified Hartwig and siegel scale it is level 5 severe reactions. According Modified Schumock and Thornton preventability scale reaction is not preventable.

## DISCUSSION

5HT<sub>3</sub> antagonists such as ondansetron, tropisetron, granisetron, palonosetron are generally associated with wide safety margin and widely used in cancer chemotherapy patients and post surgical patients to prevent nausea and vomiting. Common side effects include constipation or diarrhea, headache and dizziness. All these drugs have been associated with asymptomatic ECG changes like QT<sub>c</sub> prolongation<sup>2</sup>. There are however reports of serious adverse events such as GTCS<sup>3</sup>, Hypotension, chestpain, dystonia<sup>4</sup>. To date few anaphylactic/anaphylactoid reactions induced by ondansetron have been reported in cancer chemotherapy patients. Some authors suggest that anaphylaxis may be class effect<sup>5</sup> while some others think it is drug specific effect<sup>6</sup> as ondansetron and tropisetron share indole heterocycle, while granisetron does not have indole ring. The widespread and easy availability of 5HT<sub>3</sub> antagonists in Indian market has prompted off label use of these drugs in treatment of drug induced vomiting, migraine, gastritis and other emetogenic conditions.

## CONCLUSION

In view of life threatening anaphylactic/anaphylactoid reactions developing after i. v. ondansetron those prescribing it or other 5HT<sub>3</sub> antagonists should exercise extreme caution especially in patients with history of hypersensitivity reactions. We also caution against off label use of these drugs, especially in out of hospital set up.

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