

Unusual Localised Skin Reaction due to Ondansetron: Case Series

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Abstract

Ondansetron is an antiemetic drug that belongs to 5-hydroxytryptamine (5-HT₃) receptor antagonists group. It has been widely used to treat nausea and vomiting due to chemotherapy, post surgery or due to any other gastrointestinal problem with 5-HT₃ receptors involvement. The typical adverse drug reactions of Ondansetron include headache, dizziness, constipation or diarrhoea. Here, we have observed the skin reaction around the site of injection following Ondansetron administration. Recognition of this hypersensitivity reaction may allow better preparedness of clinicians to manage this condition.

Keywords: Ondansetron, 5-HT₃, Skin Reaction

1. Introduction

Hypersensitivity reactions are unpredictable and can be result of any type of drug usage or allergen. Its severity ranges from itching over the skin to anaphylactic reaction. Ondansetron is an antiemetic drug, commonly used in patients in oral dosage form or injectable preparations. The common adverse drug reactions of Ondansetron include headache, constipation or diarrhoea¹. Hypersensitivity reaction due to Ondansetron is uncommon. So here we have reported the case series consisting of 4 case reports mentioning the allergic reaction due to Ondansetron.

2. Ethical Approval

This case series has been written and published only after obtaining the approval from Institutional Ethics Committee (IEC No-20024 dated 30/10/2020).

3. Case Series

3.1 Case Report 1

A 62 year old female patient weighing 50 kilograms was admitted in the surgery department at tertiary

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care teaching rural hospital. She was diagnosed with a breast lump and underwent excision biopsy to establish the correct histopathological report. Patient had no significant past history of allergic reaction, smoking, alcohol use, hepatic or renal dysfunction or diabetes and hypertension. Before the excision biopsy, patient was injected with Ondansetron (4 mg) to avoid nausea and vomiting. Following the injection of intravenous Ondansetron, skin rashes were noted on skin around the injection site, which was associated with itching. Following that, the drug was withdrawn and patient recovered in few hours after antihistaminic (Chlorpheniramine 5 mg) drug administration.

3.2 Case Report 2

A 61 year male patient weighing 55 kilograms was administered intravenous Ondansetron (4 mg) as a preoperative medication for the surgery. On administration, patient developed with redness and itching over site of administration and 3 to 4 minutes later there was development of painful papules. A patient was administered intravenous hydrocortisone (100 mg) and chlorpheniramine (5 mg) to relieve the symptoms and Ondansetron was withdrawn. The patient recovered after the administration of corticosteroid and antihistaminic agent. Patient had no significant past history of allergic reactions, smoking, alcohol habit, tobacco use, hypertension or diabetes.

3.3 Case Report 3

A 38 year old male patient weighing 55 kilograms was admitted to the surgery department. Patient had no significant history of allergic reaction, smoking, tobacco use, alcohol use, diabetes or hypertension. The patient was given intravenous Ondansetron (4 mg) as premedication to prevent nausea and vomiting. The patient developed red rashes around the site of administration 2-3 minutes after the injection. The patient was given intravenous chlorpheniramine (5 mg), hydrocortisone (100 mg) and dexamethasone (8 mg) for the treatment of rashes. Patient was relieved soon after treatment and Ondansetron was withdrawn.

3.4 Case Report 4

A 19 year old female patient weighing 35 kilograms was administered intravenous Ondansetron in a dose of 4 mg

as premedication to avoid nausea and vomiting. Following that injection, patient had episode of rashes around the injection site on forearm and gradually it appeared on chest and abdomen as well. Patient was given injectable chlorpheniramine (5 mg) and hydrocortisone (100 mg) to relieve the reaction. Patient recovered following the treatment. Similar to previous case reports this patient also had no significant history of hypersensitivity or diabetes/hypertension or no addiction.

4. Discussion

Ondansetron belongs to antiemetic group of drugs which act by antagonising the 5 hydroxytryptamine₃ (5-HT₃) receptors². The other drugs included in this group are granisetron, palonosetron, dolasetron and tropisetron. These drugs are most commonly used to prevent or treat the nausea and vomiting in post operative case as well as in chemotherapy induced vomiting^{3,4}.

Ondansetron is given to the patients in oral dosage form or injectable preparations. It carries wide margin of safety, but it causes the adverse drug reactions like headache, constipation, dizziness and diarrhoea. The other less frequent but serious in nature reported side effects are chest pain, hypotension dystonia and Generalised Tonic-clonic seizures (GTCs)^{1,5,6-10}.

All hypersensitivity and anaphylactoid responses due to Ondansetron have been in patients receiving the medication for malignancy chemotherapy. Due to this, some researchers recommend that the medication's utilization ought to be limited¹⁰. Extreme nausea/vomiting not responding to other antiemetics and Nausea/Vomiting of Pregnancy (NVP) are additionally regular unlabelled indications for the utilization of Ondansetron^{2,11}.

Apart from all these adverse drug reactions, the allergic reaction remains unusual in case of Ondansetron use. Hypersensitivity reaction varies from patient to patient and ranges from mild to severe. But in our study, the uncommon aspect was all four patients experienced the occurrence of skin rashes around the injection site soon after administration of Ondansetron. Out of four patients, three were had limited localised skin rashes while only one patient had spread of rashes towards the chest and abdomen. These patients had neither past history of similar episodes nor they were suffering with chronic illness. All the patients were treated with injectable Hydrocortisone/Dexamethasone

(Corticosteroids) or Chlorpheniramine (Antihistaminic) and they were relieved. No further treatment was needed. Similar observations have been made by Rohit et al., and Mehra et al.,^{1,9}. These hypersensitivity reactions can be IgE mediated or Non-IgE mediated. In our study, it was observed that all the patients had no history of similar episodes earlier¹.

With this we conclude that Ondansetron may cause an anaphylactoid reaction, so before administering it clinicians should always rule out the history of allergy. Additionally, emergency equipment should always be ready while administering the Ondansetron to prevent the fatal consequences.

5. Conflict of Interest

Nil.

6. References

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