

Original Research

Antiemetic causing abnormal movements - A rare case of oro-lingual dystonia as a side effect of Ondansetron

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ABSTRACT:

Ondansetron is a selective 5-hydroxytryptamine receptor (5HT-3) antagonist commonly used as an antiemetic drug. Oro-lingual dystonia is a manifestation of the extrapyramidal system, which is an unwanted target for this 5HT-3 antagonist. Our patient suffered from oro-lingual dystonia which was later attributed to the use of ondansetron. Through this case report, we want to supplement already existing limited data available on rare extrapyramidal side effects of ondansetron.

Received: 18 June, 2021

Accepted: 25 July, 2021

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This article may be cited as: Arora S, Bansal P, Sehgal V. Antiemetic causing abnormal movements - A rare case of oro-lingual dystonia as a side effect of Ondansetron. Int J Res Health Allied Sci 2021; 7(4): 192-193.

INTRODUCTION

This report describes the case of a rare side effect of a very widely used anti-emetic medication which goes by the name Ondansetron. This Drug usually given as a 4mg dose, helps in relieving signs and symptoms of nausea and vomiting. It can be taken with or without food. Ondansetron is mainly metabolized in the liver, therefore, it needs to be used with caution in patients with severe liver impairment. It is contraindicated in patients who are on Apomorphine(1) (such as in patients with Parkinson's disease). Another contraindication for this drug is any history of previous anaphylactic reactions to this drug or any of its components.

Very few side effects have been associated with its use. These may include headaches, constipation, hiccups or fits. The patient can have a sensation of warmth, flushing, hypotension and increased heart rate. Side effects like local reactions including redness, pain and even a burning sensation, have also been reported. It is considered teratogenic as cases of cleft lip and/or cleft palate have been associated with its use in pregnancy, therefore referred as a 'category B' drug. (1)

There have been rare reports consistent with, but not diagnostic of extrapyramidal reactions with

ondansetron. Few cases of blurred vision and even transient blindness have been reported, especially when given via intravenous route. (2) Multifocal encephalopathy with EPS has been associated with its use.(6)

CASE DESCRIPTION

A known case of hypothyroidism for the last 3 years, a 30-year old female patient presented to the emergency department with classic symptoms of gastroenteritis. She complained of feeling nauseous and having multiple episodes of vomiting for a day. On examination, the patient's vitals were found to be stable. She was afebrile and had a blood pressure of 110/70mmHg, respiratory rate of 22/min, a heart rate of 86/min and a sPO2 level of 96%. The patient was conscious and alert, although she was under obvious discomfort. She looked mildly dehydrated. General physical examination was otherwise all clear and did not show any significant abnormality.

INVESTIGATIONS

Within few minutes of arrival, all major laboratory investigations were sent which included complete blood count, renal function tests, serum electrolytes, urine routine and viral markers. ECG was also done

which was found to be normal. All the other reports did not show any remarkable deviation from normal either, except for mildly low levels of T3 and T4, along with increased levels of TSH.

TREATMENT AND SEQUEL

Meanwhile, the patient was administered INJ PANTOCID 40mg and INJ EMESET 4mg intravenously in stat, as part of the symptomatic treatment. Within minutes of administration of ondansetron, the patient became restless and felt dizzy. She fainted on the emergency bed. While examining her, involuntary movements of the mouth and tongue were noted. Her tongue was sticking out of her mouth and then going in rapidly. The patient had no previously known drug allergy of any kind. The patient was diagnosed to be having oro-lingual dystonia, a rare extrapyramidal side effect of ondansetron.

She was administered Phenergan (an anti-histamine) immediately. The dystonia started to wean off and was gone within the next ten minutes. She was then admitted to the hospital for further evaluation and management.

DISCUSSION

Ondansetron is a serotonin receptor antagonist. It selectively acts on 5HT-3 receptors and aids in managing nausea and vomiting, especially for postoperative patients(3). In the initial clinical trials, ondansetron proved to be better than its other counterparts with not much evidence of any neurological side effects(4). But over the past two decades, many cases have been reported showcasing the extrapyramidal symptoms linked directly to the use of ondansetron. The mechanism behind this is not well understood but a cross-reactivity has been suggested between ondansetron and other drugs that produce extrapyramidal symptoms(5). It has also been postulated that patients with a history of drug-induced dystonic reactions are more susceptible to the development of extrapyramidal signs and symptoms after the use of ondansetron(5).

Our patient complained of nausea and vomiting while presenting in the emergency department. She was administered 4mg ondansetron over 4-5 minutes. Within few minutes, her face became expressionless and she stopped responding to any verbal stimuli. She became stunned and got her tongue protruded, which showed a dyskinetic reaction. The oro-lingual dystonia witnessed in this patient further supports the idea that ondansetron does play some sort of role in dopaminergic transmission, although it has no appreciable affinity for dopamine receptors. Dystonia in these patients are managed in the same way as the extra-pyramidal symptoms with other drugs are managed.

CONCLUSION

Through this case report, we want to highlight the potential possibility of ondansetron to cause extrapyramidal side effects which may include oro-lingual dystonias, cervical dystonias, etc. Usually anti-emetics like **metoclopramide** and **prochlorperazine** are implicated for causing extra pyramidal side effects but this is a rare case where ondansetron is causing such side effects. Even though ondansetron has not been found to have profound effects on dopamine receptors, extrapyramidal side effects like these have been reported. The underlying mechanism remains unknown and is an area of research. This being said, a physician should keep this possibility in mind, which would help him guide the management effectively, with better patient care as the utmost goal. These movements can be easily treated by giving anti-histamine medications like phenergan immediately.

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