

## Acute dystonia in a 6 weeks pregnant woman after usage of metoclopramide: case report

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### ABSTRACT

A 22 year-old female 6 weeks pregnant according to her last menstruation date, was admitted to the emergency service with somnolence and neck spasm. She had received oral metoclopramide with a total dosage of 60 mg intermittantly within the last 24 hours for nausea and vomiting. Her beta-HCG level was measured and the result was compatible with her last menstruation date. These dystonic symptoms were thought to be due to the side effect of metoclopramide and a gastric lavage was performed. Urgent consultation with the National Toxicology Center was made and according to their suggestion 20 mg diphenhydramine was administered intramuscularly (IM) for these extrapyramidal side effects and an infusion of 0.9% NaCl fluid was started intravenously. She was accepted to the intensive care unit for close monitorisation.

During her intensive care unit follow up, 6 hours after the administration of diphenhydramine signs and symptoms began to diminish and after 24 hours they had all disappeared. After 48 hours of intensive care unit follow up, Obstetrics and Gynecology consultation declared no problem with the pregnancy and the patient was discharged.

**Key words:** Pregnancy, nausea and vomiting, metoclopramide, acute dystonia

### Introduction

Metoclopramide is a benzamide type, dopamine receptor antagonist which is used as an anti emetic agent in many clinical situations with nausea and vomiting such as pregnancy (1,2,3). In this case report, we discuss a 22 year-old pregnant female who presented to emergency service with acute dystonia. She was 6 weeks pregnant according to her last menstruation date and this was confirmed with a positive beta-HCG measurement in the emergency service. She had taken metoclopramide at a total dosage of 60 mg intermittantly within the last 24 hours for nausea and vomiting.

### Case presentation

A 22 year-old female, 6 weeks pregnant according to her last menstruation date, was admitted to the emergency service due to somnolence and neck spasm. In her history taken from her husband, it was learned that 6 weeks had passed from the last date of menstruation, she was vomiting and had been

suspicious of being pregnant but she had had no obstetrical examination in this period. She had been taking metoclopramide pills for her vomiting which were suggested for her previous pregnancy by her gynecologist. She had ingested in total 6 oral metoclopramide pills (totally 60 mg) in the last 24 hours intermittantly and 3 hours after the last dosage somnolence, spasm in her neck, arms and legs began. With these symptoms she applied to the emergency service.

Physical examination revealed a body temperature of 36,5 0C, 65 beats/min pulse rate, 23/min respiratory rate and 90/60 mmHg systolic and diastolic blood pressure. Somnolence continued during physical examination and response to verbal and painful stimuli were decreased. Dystonia in her hands and legs was prominent. For verifying the pregnancy beta HCG level was measured and the result was compatible with the last date of menstruation. No abnormal results were found in other laboratory measurements.

With this history and clinical examination findings it was thought that the dystonic symptoms were because of the side effects of metoclopramide and gastric lavage was performed. A consultation with the National Toxicology Center was made, in which 20 mg intramuscular diphenhydramine and infusion of 0.9% NaCl fluid was suggested for the extrapyramidal side effects. For close monitorisation she was accepted to the intensive care unit.

During intensive care unit follow up, 6 hours after the administration of diphenhydramine signs and symptoms began to decrease and after 24 hours they had all disappeared. After 48 hours of intensive care unit follow up the patient was discharged after an Obstetrics and Gynecology consultation declared no problem with the pregnancy. An informed consent was taken from the patient for this case report before her discharge.

## Discussion

Nausea and vomiting are seen in 80% of all pregnancies (1,2,3). Although they are most common in the first trimester, in 20% of pregnancies they can occur after the 12<sup>th</sup> week. Certain dopamine antagonist agents like promethazine, prochlorperazine and metoclopramide which also act as weak serotonin receptor antagonists are used as anti emetics in pregnancy. Additionally ondansetron as a 5 HT<sub>3</sub> receptor antagonist are commonly used for this purpose (4,5,6,7).

Alternative agents like ondansetron which is a relatively safe drug may also be used for the treatment of nausea and vomiting during pregnancy. But it is an expensive drug. Its common side effects are headache and constipation. Anti histaminic agents may be another alternative but in this group hydroxyzine is contraindicated in pregnancy because of its teratogenic effects. Neuroleptic agents like fluphenazine, chlorpromazine or haloperidol can also be used as antiemetics but during pregnancy their long term usage may be harmful too. Scopolamine is another antiemetic agent but its short duration of action limits its usage in pregnancy (4,6,7).

Metoclopramide acts on dopaminergic receptors in the central trigger zone thus showing its anti emetic effect. Somnolence, asthenia, extrapyramidal dystonic reactions and neuroendocrine effects like galactorrhea are common side effects of metoclopramide (8,9). Acute dystonia due to metoclopramide usage is common in children and young adults after

metoclopramide use in normal dosage. Kızılelma et al. (10) presented a 13 year-old boy with acute dystonia after usage of metoclopramide at normal dosage. İncecik et al. (11) also reported 2 boys at 8 and 10 years of age with dystonic symptoms after usage of metoclopramide at suggested doses. In another case report Silfeler et al. (12) reported 3 brothers, 6,8 and 15 years of age, that were admitted to hospital with acute dystonic symptoms after receiving an appropriate dose of metoclopramide. In another study, Bateman et al. showed that there was no relationship between acute dystonia and drug plasma concentration (13). Askenasy JJ et al. reported the occurrence of dystonic head and neck movements due to metoclopramide, especially in young pregnant women (14).

In the treatment of acute dystonia due to metoclopramide general medical care, biperidon and sedative medication like diphenhydramine in some patients are used. Signs and symptoms disappear in the first 24 hours following biperidon or sedative treatment (9). Cezard et al. showed a 9,1% of hospitalization rate in patients with metoclopramide intoxication (15).

In our case, after pregnancy confirmation and elimination of any other drug usage, 20 mg diphenhydramine was applied intramuscularly and the patient was referred to the intensive care unit for monitoring and follow up. 6 hours after application of diphenhydramine dystonic findings began to decrease and after 24 hours they all disappeared. She was followed in the intensive care unit for 48 hours and was discharged after the consultation of the obstetrician. No additional problem with the pregnancy was established. According to medical history and physical examination, another cause was not considered. The sudden onset of symptoms within 24 hours after metoclopramide usage, lack of other drug usage history and the rapid response to diphenhydramine led us to consider metoclopramide usage as the cause of acute dystonic symptoms.

In patients with acute dystonia, usage of metoclopramide and its side effects should be considered and the patients should be questioned accordingly. In situations like pregnancy in which metoclopramide is used as an anti emetic agent, it should be kept in mind that dose accumulation may cause acute dystonia. In pregnant women, especially in the early stages of pregnancy, the prescription of this drug should be performed carefully and the patients should be reminded of this side effect.

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