

# Acute dystonic reaction due to metoclopramide use in a 9-year-old patient

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## Dear Editor,

Dystonia is a neurologic condition characterized by a recurrent, involuntary strong muscle contraction and temporary or permanent posture disorder (1). Acute dystonic reaction, especially in the face, neck and back muscles contractions, opisthotonus, torticollis, school genic crisis, dysarthria, trismus is manifested by. The drug that causes the most acute dystonic reaction from antiemetic drugs is metoclopramide (2).

Metoclopramide is a common antiemetic drug used in pediatric emergencies and demonstrates its extrapyramidal side effects by inhibiting dopamine-2 receptors in basal ganglia (3). Metoclopramide with a half-life of 4 hours, the effect of 1 - 3 minutes in intravenous administration, when given orally in 15 - 30 minutes (4). Parkinsonism, tardive dyskinesia, malignant neuroleptic syndrome, akathisia and acute dystonic reaction are the most common extrapyramidal side effects associated with metoclopramide use (5).

Considering the widespread use of antiemetic in children population especially in Aksaray city and Central Anatolia region, it is aimed to draw attention to the detailed evaluation of the diagnosis and treatment of extrapyramidal symptoms and especially of the acute dystonic reaction and differential diagnosis in emergency departments.

A 9-year-old girl was referred to our hospital's pediatric emergency department with complaints of involuntary muscle contractions in neck region and shifting eyes. It was learned that the patient was referred to the emergency department with fever and vomiting 3 days ago and the patient was diagnosed with upper respiratory tract infection. From the emergency department, amoxicillin-clavulanic acid (50 mg / kg per day in two divided doses), paracetamol (15 mg / kg per dose three times a day) and

metoclopramide (0.5 mg / kg per day in three divided doses) was started. In the first physical examination when the patient was consulted to us, the patient had a fever of 37.1 °C, a blood pressure of 110/60 mmHg, a pulse of 92 / min, and a respiratory rate of 20 / min. Pupillary isochoric, direct and indirect light reflexes were taken. In the laboratory examinations, complete blood count and biochemical values were found to be normal. Her muscle motor examination and tone were normal and there was no rigidity. The deep tendon reflexes were equal and normo-active in all four extremities. Extrapyramidal system examination revealed hyperextension in the neck, dystonic movements in the arms and ocular gait. Other system examinations of the patient were evaluated as normal. It was thought that acute dystonic reaction developed due to metoclopramide due to lack of similar complaints of the patient before. IV fluid support and 0.3 mg / kg diazepam were administered intravenously. Symptoms disappeared dramatically within approximately one hour after injection. The patient was followed-up for 12 hours and was discharged the next day to the pediatric outpatient clinic. It was learned that the patient's physical examination was completely normal and her symptoms did not recur and the family was advised not to use this group of drugs again.

Metoclopramide is an antiemetic dopamine agonist commonly used in gastroenteritis in children with gastroesophageal reflux disease, nausea due to chemotherapy, respiratory infections (6). This drug is metabolized in the liver and excreted in the urine. Therefore, dose adjustment should be done in patients with liver and renal failure and these problems should be questioned before giving this drug to the patient (7).

Tardive dyskinesia and Parkinsonism in long-term use; dystonia and akathisia can be seen even in single dose metoclopramide use. Although metoclopramide is used

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at the recommended dose in childhood, this can cause side effects (8). Since these drug-related effects are idiosyncratic, drug-induced side effects can be seen even in the treatment dose range. Dystonia due to the use of the drug can be treated and reversible (9). Dystonic reactions due to the use of metoclopramide in children because dystonia is rare in pediatric patients, it can be easily mixed with other diseases (10).

Diagnosis of dystonia by a doctor is important for rapid intervention. Other conditions were excluded because of the sudden onset of the findings in our patient, lack of fever and other physical examination findings, rapid response to diazepam, and the patient was completely healthy. With the diagnosis, the acute dystonic reaction can be easily treated with anticholinergic drugs such as biperidene, diazepam or diphenhydramine. Dystonic reaction is usually lost within half an hour after parenteral administration of the drugs.

Although antiemetic drugs are frequently used, they are not innocent drugs. Side effects of antiemetic drugs in pediatric patients can be intimidating for patients and families. While prescribing all drugs, risks should be considered as well as benefits, and patients and their relatives should be informed about possible side effects.

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