Case Report

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Recurrent Temporomandibular Joint Dislocation Due to Antiemetic Induced Acute Dystonia: A Case Report

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Abstract

Drug-induced acute dystonic reaction is a common presentation to emergency department. Oromandibular dystonia is one of the focal dystonias, which can be presented as jaw clenching, jaw opening or jaw deviation and leads to impaired speech and swallowing. In this paper, we presented an adult patient with recurrent temporomandibular joint dislocation due to metoclopramide use. A 21-year-old female patient came to the emergency department with the complaints of inability chew and swallow, difficulty in speaking, pain at right temporomandibular region that started a few hours ago. On physical examination, she was having dystonia of the right mandibular region and left posterior servikal region and no dystonia at other parts of the body. The patient was diagnosed with metoclopramide-induced acute dystonia. She was treated with intravenous anticholinergic. Metoclopramide is an antiemetic drug that can cause serious adverse events such as acute dystonic reaction. Among these side effects are oromandibular dystonias, which may lead to TMJ dislocation. Physicians and other healthcare professionals working in the emergency department should be familiar with such side effects.

Keywords: Temporomandibular joint dislocation, dystonia, metoclopramide, emergency department

Introduction

Dystonia is a movement disorder that is characterised by intermittent or prolonged muscle contractions that result in abnormal, often repetitive movement patterns in all or parts of the body(1). It may be focal, multifocal, or generalized and may also be primary or secondary based on their etiology. It may manifest as oculogyric crisis, deviation of eyes in all directions, protrusion of tongue, trismus, lock jaw, torticolis, laryngeal spasm, difficulty in speaking, facial grimacing, opisthotonus, lordosis or scoliosis and tortipelvic crisis(2). Dystonia induced by drug treatment is an example of a secondary form of the disorder(3). Drug-induced acute dystonic reaction is a common presentation to emergency department. Drug-induced dystonia are secondary dystonias which occur commonly with drugs with antidopaminergic effects such as antipsychotics and metoclopramide(4).

Metoclopramide, a dopamine-2 receptor antagonist used for various gastrointestinal disorders, may cause or exacerbate a variety of extrapyramidal movement disorders(5). The anti-emetic action of metoclopramide is the result of its antagonist activity at D2 receptors in the chemoreceptor trigger zone in the central nervous system; this action prevents the nausea and vomiting triggered by most stimuli(6). Extrapyramidal side effects are estimated to be 0.2 %. Acute dystonic side effects usually occur 1–2 days after first taking the drug(7).

Oromandibular dystonia is one of the focal dystonias, which can be presented as jaw clenching, jaw opening or jaw deviation and leads to impaired speech and swallowing(8). Sometimes oromandibular dystonia is so severe that it can cause temporomandibular joint dislocation. Thus far, few case reports have been published about temporomandibular joint dislocation due to antiemetic medications(9). Published articles are also generally in the pediatric population. Hence the present article reports a case of oromandibular dystonia with temporomandibular joint dislocation with metoclopramide.

Case Report

A 21-year-old female patient, who had no known additional disease, came to the emergency department with the

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complaints of inability chew and swallow, difficulty in speaking, pain at right temporomandibular region that started a few hours ago. She was diagnosed with temporomandibular joint dislocation. Subsequently dislocation was reduced by traditional intraoral tecnique. The patient was discharged with oral symptomatic treatment and a recommendation for plastic surgery outpatient control. After a few hours, she came back to the emergency department with the same complaints and additional cervical contraction.

On physical examination, she was having dystonia of the right mandibular region and left posterior servikal region and no dystonia at other parts of the body. Her vitals and systemic examination were normal. When the patient's anamnesis was detailed, it was learned that the patient had used metoclopramide 2 days ago with a prescription due to nausea and vomiting. The patient was diagnosed with metoclopramide-induced acute dystonia. She was treated with intravenous (IV) biperiden 5 mg slow infusion and IV fluids to maintain hydration. The patient was observed in the emergency room for 4 hours after treatment. In the follow-up, dystonia decreased and the patient was able to close her mouth and started eating. The patient was discharged with full recovery after 8 hours observation. If the patient needed antiemetics again, it was recommended not to use metoclopramide.

Discussion

In the present case we reported an unconventional presentation of oromandibular dystonia with TMJ dislocation in a patient treated with oral metoclopramide 10 mg. If dystonia is severe, it can cause temporomandibular joint dislocation (2).

Metoclopramide may cause extrapyramidal symptoms, usually occurring as acute dystonic reactions within the first 24-48 hours (6). In studies conducted in the developed world, the incidence of metoclopramide-induced dystonic reactions is reported as 1:500 patients (10). Female patients, children, adults younger than 30, and patients taking high doses of metoclopramide have higher chances of developing dystonic reactions (6)(11). Our patient was a 21-year-old female, therefore, had a slightly higher risk of developing a dystonic reaction to metoclopramide compared with the general population.

Management of acute dystonia includes primarily discontinuation of metoclopramide followed by administration of injectable anticholinergic and antihistamine drugs, mostly benztropine and diphenhydramine. The response to treatment is often dramatic and typically occurs within minutes of intravenous drug administration. If initial treatment is successful, therapy is continued orally for two to three days to prevent recurrence. Alternative treatments for dystonia include benzodiazepines , amantadine, or biperiden (12). In this case, our patient had jaw dislocation and cervical contraction. It could not be applied to the patient because there were no drugs that should be used in the treatment management in the first place. Therefore, our patient was given an alternative drug, biperiden, intravenously. Since there was a situation requiring urgent intervention, the medicine in our institution was given to the patient. Medications to be used in the treatment of such extrapyramidal symptoms should be available in emergency departments using metoclopramide.

Acute dystonic reaction in the emergency department is a very serious problem due to the high probability of misdiagnosis. In the event of a dystonic reaction, the fatal differential diagnosis that physicians must make is tetanus, partial seizures, strychnine poisoning, hypocalcemia, or other electrolyte imbalances (13).

TMJ dislocation is a rare complication of oromandibular dystonia, but it can cause significant fear and discomfort to the patient and their relatives. In our case, dislocation of the temporomandibular joint was first misdiagnosed and oromandibular dystonia was not recognized. Metoclopramide-induced TMJ dislocation has been reported in the pediatric population in studies conducted so far, but no such case has been reported in adult patients.

In this case, it was shown that TMJ dislocation can also be seen in the adult patient population due to the side effect of metpamide. In these patients, it was emphasized that the anamnesis should be deepened and drug use should be questioned.

Conclusion

Metoclopramide is an antiemetic drug that can cause serious adverse events such as acute dystonic reaction. Among these side effects are oromandibular dystonias, which may lead to TMJ dislocation. Physicians and other healthcare professionals working in the emergency department should be familiar with such side effects. The most rapid treatment of acute dystonic reaction caused by metoclopramide is intravenous or intramuscular administration of anticholinergics and antihistamines.

Conflicts of interest: *The authors have no conflict of interest, no financial issues to disclose.*

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