



## A Rare Case Report On Domperidone Induced Orofacial Dyskinesia

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### Abstract

Domperidone is a dopamine antagonist used as an antiemetic and for alleviating gastroparesis via its effect on dopamine receptors in the esophagus and duodenum. In India, it is easy to acquire domperidone without a prescription since it is commonly available as part of a combination medication with proton pump inhibitors (PPIs) to treat dyspepsia and gastroesophageal reflux disease (GERD). We report the case of a 43-year-old female patient who developed orofacial dyskinesia, a rare adverse drug reaction of domperidone that may have gone unnoticed by the treating physician.

**Keywords:** Domperidone, Orofacial dyskinesia, Adverse Drug Reaction, Proton pump inhibitors

### Introduction

Domperidone, classified as a D-2 receptor antagonist, exerts its antiemetic effects by acting on the area postrema in the brainstem, which is a chemoreceptor trigger zone, and this occurs outside the confines of the blood-brain barrier (BBB).<sup>[1]</sup> The gastroprokinetic properties of domperidone are related to its peripheral dopamine receptor-blocking properties. The occurrence of extrapyramidal symptoms (EPS) caused by domperidone is rare because, unlike its antiemetic counterparts like metoclopramide and structurally similar drug haloperidol, domperidone typically does not pass through the blood-brain barrier in normal circumstances.<sup>[2]</sup> Common adverse effects of domperidone include gastrointestinal disorders, nervous system disorders, cardiac disorders, skin and subcutaneous tissue disorders, etc. Till date, 13,602 ADRs of Domperidone have been reported globally to the Uppsala Monitoring Centre, Sweden through the World Health Organisation program. Of which 3257 ADRs are nervous system disorders and around 134 among them are

dyskinesia.<sup>[3]</sup> We present a case of domperidone-induced orofacial dyskinesia that presented within 24 hours of consumption of one dose of commonly available oral combination drug of PPIs with domperidone that was suggested for abdominal bloating.

### Case Report

A 43-year-old female patient came to the emergency department complaining of a tingling sensation on the right side of the mouth spreading to the entire oral cavity along with pain at the right side of the lower jaw. She has no known comorbidities but has had a history of abdominal bloating for a few days. Her cardiovascular, respiratory, per abdomen and genitourinary system did not display any abnormality. There was no history of head trauma or similar history, nor any family history of such illness. Central nervous system examination was normal. Also, the patient did not have any previous account of nervous system disorders. Upon further inquiry, it

was known that she was on treatment with a combination drug of Esomeprazole and Domperidone for abdominal bloating for a day. Suspecting domperidone as the cause of orofacial dyskinesia, the drug was withdrawn and dyskinesia was resolved.

## Discussion

Orofacial dyskinesia are uncommon neurological disorder with involuntary movements or repetitive muscle contractions that may involve the face, lips, tongue and jaw. In this case, upon observing the patient both at rest and during the conversation, intermittent and non-rhythmic involuntary movements were noted in the lower right part of the face, particularly in the perioral region. These movements manifested as facial twitches, occasionally causing the angle of the mouth to deviate towards the right side.

Domperidone is a peripheral and central dopamine receptor antagonist with gastroprokinetic and antiemetic effects.<sup>[2]</sup> This agent usually presents low rates of extrapyramidal side effects due to its negligible penetration through the blood-brain barrier. It is usually prescribed in a dose of 30 mg/day but a maximum of 80 mg/day can be given.<sup>[4]</sup> The potential pathomechanism behind this hyperkinetic motor phenomenon is the disruption of balance within the cortical-subcortical circuit, leading to an excess of muscular activity. Its half-life is about 7 hours. The temporal relationship between the administration of domperidone and onset of dyskinesia and its disappearance with discontinuation of the drug suggested this relationship. We did not try to rechallenge with domperidone due to the troublesome nature of this reaction. Fortunately, drug-induced acute dyskinesia is usually reversible.

In India, the combination of PPIs and domperidone is readily accessible without a prescription. However, it's important to note that domperidone can potentially induce dyskinesia, as observed in our case. Gathering a thorough patient history is crucial for accurate clinical diagnosis, as it helps avoid unnecessary prescriptions of anti-epileptic drugs, series of blood investigations, imaging procedures, etc.

On evaluation at our ADR monitoring centre, the causality was assessed as “probable” using the WHO-UMC causality assessment scale. According to WHO criteria, the seriousness of the reaction was hospitalization prolonged/initiated and the outcome of the reaction was recovered. Careful examination of the patient medication history is clinically important prior to choosing treatment regimens. These case report warrants that clinicians be extremely cautious about such potential extrapyramidal symptoms associated with the use of domperidone.

## Conclusion

This case report highlights the importance of extrapyramidal side effects like orofacial dyskinesia associated with the use of a dopamine antagonist and it also serves as a reminder to healthcare practitioners in India to exercise caution when prescribing PPIs alongside domperidone, as the latter may induce EPS. Such combination medications should only be recommended when deemed absolutely necessary by the attending physician.

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