

METOCLOPRAMIDE HYDROCHLORIDE – INDUCED DYSTONIC REACTION IN LACTATION MOTHER: CASE REPORTRamya N.*¹, Harshitha M.*¹, Dr. Darshan H. B.² and Dr. Aman Suresh T.²¹Pharm D Interns, ²Assistant Professor

Department of Pharmacy Practice, SJM College of Pharmacy, Chitradurga Karnataka 577502, India.

Article Received on: 21/11/2023

Article Revised on: 11/12/2023

Article Accepted on: 01/01/2024



*Corresponding Author

Ramya N.

Pharm D. Interns, Department of
Pharmacy Practice, SJM College
of Pharmacy, Chitradurga
Karnataka 577502, India.**ABSTRACT**

Background: Metoclopramide hydrochloride is most commonly used as antiemetic, prokinetic, dopamine antagonists and galactagogue. Dystonic reaction is most commonly occurred by Metoclopramide hydrochloride. We reporting 20 years old women case of Dystonic reaction induced by Metoclopramide hydrochloride case of 20 years. **Case Presentation:** A 20 years old women from bukkambudhi with no documented medical history. Her local physician prescribed oral tablet Metoclopramide hydrochloride 10 mg 3 times a day for increasing milk production, she admitted to hospital with the symptoms of slurred speech and deviating angle of mouth to left. diagnosed as a Metoclopramide induced dystonia. Advised to discontinue Metoclopramide hydrochloride and treated in right away by giving antihistamine Pheniramine malate. After 4 days symptoms are resolved and discharged. **Conclusion:** Metoclopramide hydrochloride can cause an unpredictable dystonia reaction. This can be life threatening and should be diagnosed early. Care must be taken during prescribing of Metoclopramide hydrochloride in lactation mother.

KEYWORDS: Metoclopramide hydrochloride, galactagogue, Dystonic reaction, pheniramine maleate.

INTRODUCTION

In 1979 food and drug administration (FDA) has been approved Metoclopramide as an antiemetic medication. It is commonly used for treat nausea, vomiting, dyspepsia, gastro esophageal reflex disease and chemotherapy patients to control nausea and vomiting.^[1] It can also used as a galactagogue for increases serum prolactin.^[2] Metoclopramide act as a antagonizing peripheral and central dopamine – 2 receptors in the medullary chemoreceptor trigger zone; in this process prevents nausea and vomiting stimuli.^[3] Metoclopramide hydrochloride increases milk production by antagonizing the dopamine release in the CNS this result to increase prolactin levels and thus inducing breast milk level. Metoclopramide centrally acting drug, it increases 60-100 % milk supply within 2-5 days.^[4]

Dystonic reaction is an involuntary, prolonged or spasmodic contraction of muscle group result in the twisting, repetitive movement or abnormal postures. Extra pyramidal symptoms effect caused by Metoclopramide among acute Dystonic reaction is most common.^[5]

We present a rare case of Metoclopramide hydrochloride induced Dystonic reaction in 20 years old female admitted female medical ward of a tertiary hospital in Chitradurga.

Case Presentation

A 20 years old married Hindu female patient from bukkambudhi, challakere, Chitradurga, admitted to female medical ward at BMCH and RC hospital on 18 July 2022 due to complaints of slurred speech and deviating angle of mouth to left. On 17 July 2022 patient visit local physician prescribed oral tablet Metoclopramide hydrochloride 10 mg 3 times a day for increasing milk production. After taking 2 tablets, she developed the symptoms of slurred speech and deviating angle of mouth to left. There was no documented history of any allergies or other abnormal body movements. She also did not have any relatives with seizure disorder. There was no documented history of any fever, headache, vomiting, abnormal jerky movement.

Her routine test includes, CBC- hemoglobin 12.4gms/dl, white blood cells 7820cells/cumm, renal function test, BP 110/80 mmHg, pulse rate 76bpm, partial pressure oxygen saturation [spo₂] 98% on room air, cardio vascular system - s₁,s₂ heard, center nervous system – conscious and oriented, Respiratory system- bilateral NVBS heard, electrolyte chloride ion 103mmol/l, potassium ion 4.0mmol/l are within normal limits. No abnormality detected in bio-chemical investigation.

The Naranjo adverse drug reaction probability scale scored 7 and classified as a “probable” adverse drug

reaction. WHO probability scale ADR is "probable". For hartwing and seigels severity scale score is "moderate" that is level 4A and level 4B. Modified schumock and Thorntons preventability scale classified as non preventable.

She was diagnosed as Metoclopramide hydrochloride induced dystonia. She was resuscitated right away with antihistamine Pheniramine maleate for 4 days, injection pantoprazole 40 mg for 4 days, intravenous fluid 1 pint normal saline for 3 days, injection metronidazole 100ml for 2 days. After 4 days symptoms are subsided and discharged the patient. Recommended to stop taking Metoclopramide hydrochloride in the future.

DISCUSSION

Metoclopramide hydrochloride is commonly used as antiemetic and prokinetic agent.^[6] It is a centrally acting drug, between 10-22 weeks of gestation milk production starts. Enhance 60-100% increases milk supply within 2-5 days and it regularly administrated 3 times a day. When their milk supply is low only 50-80% of women will respond.^[2] The most common dosage in research has been 10mg twice or thrice per day for 7-14 days.^[7] Metoclopramide hydrochloride encourages lactation by inhibiting the release of dopamine in the CNS, which increases the production of breast milk.^[4]

The most typical signs of MIADR [Metoclopramide induced acute Dystonic reaction] include facial twitching, slurred speech and abnormally protruding tongue during speech according to some studies these patients may exhibit a combination of symptom such as acute chorea, organic affective syndrome and major depressive disorder. Metoclopramide hydrochloride use the linked to extra pyramidal side effects such as acute dystonia, tardive dyskinesia, akathisia and drug induced parkinsonism.^[1] Dystonia is defined as a movement disorder characterized by involuntary, sustained muscle contraction that results in twisting and repetitive movements or abnormal postures.^[8]

Our patient a 20years old women, was similarly to those who experienced Metoclopramide induced acute dystonia reaction [MIADR] which are detected in 0.2% of people with a female predominance up to 70%. Effects after taking Metoclopramide hydrochloride can take up to 36 hours to manifest which was similar to our patient symptoms occurs within 36 hours.^[1] The likelihood of experiencing a dystonia reaction is higher in female patient, children and people under 30 years old, our patient was 20 years old female so compared to the general population, she had a slightly increased risk of having a Dystonic reaction to Metoclopramide hydrochloride.^[5] In a comprehensive survey of women using Metoclopramide hydrochloride to improve lactation it was discovered that 4.8% of the women experienced palpitation or raising heart rate, 12% of the women reported depression and 1-7% of the women reported various central nervous system side effect,

which is similar to our patient adverse effect is dystonia.^[7]

Most rapid treatment to treat. Metoclopramide hydrochloride induced dystonia is anticholinergic or antihistamines administered by intravenous or intramuscular.^[5] Other drugs like benzotropine and diphenylamine is also to treat Dystonic reaction.^[8] In this case antihistamine is used to treat. Metoclopramide hydrochloride induced Dystonic reaction.

CONCLUSION

Metoclopramide hydrochloride can cause an unpredictable dystonia reaction. This can be life threatening and should be diagnosed early. Care must be taken during prescribing of Metoclopramide hydrochloride in lactation mother.

REFERENCES

1. Chaudhary R, Malla G, Kadayat M, Metoclopramide- induced acute dystonic reaction: a case report; journal of medical case report, 2021; 15: 520.
2. McGuire M T, Drugs affecting milk supply during lactation; Australian prescriber, 2018; 41: 1.
3. Karagoz G, Kadanali A, Dede B, Anadol U, Yucel M, Bektasoglu FM, Metoclopramide- induced acute dystonic reaction: a case report; The Eurasian journal of medicine, 2013; 45: 58-9.
4. <http://www.clinicaltrials.gov/ct2/show/NCT00264719>.
5. Tianyi L F, Agbor N V, Njim T, Metoclopramide-induced acute dystonic reaction: a case report; BMC research notes, 2017; 10: 32.
6. Hassan S M, Nor A M, Metoclopramide induced acute dystonic reaction: a case report; Annals of Medical and Surgery, 2022; 74.
7. <https://www.ncbi.nlm.nih.gov/books/NBK501352/>.
8. Andrew O E, Metoclopramide- induced acute dystonic reaction: a case report; Medical case report, 2020; 6(4): 153.