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RESEARCH ARTICLE

CASE REPORT OF METOCLOPRAMIDE INDUCED DYSTONIA IN PRIMARY HEALTH CARE IN JAZAN, SAUDI ARABIA, 2022

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ABSTRACT

Metoclopramide hydrochloride, a neuroleptic dopamine receptor antagonist used to treat gastric ailments, is reported to cause extrapyramidal movement disorder. Our case in rural district in Jazan, Southern area in Saudi Arabia the medical service provided by general practitioner, deal with simple cases only and refer the complicated one. A 44 years old Saudi male, came to primary health care center complain of epigastric pain after eating spicy meal he has epigastric pain localize not radiating and vomiting of whatever he drinks or eat he was assessed by general practitioner and diagnosed as acute gastritis, 10 mg metoclopramide. After he received the injection; the patient developed a spasticity and rigors over all his limbs, difficulty of speaking and a noisy breathing was heard but not strider, his tongue was contracted and retracted. He remained fully conscious during this episode. The patient connected to monitor, Oxygen mask, and placed on lateral position, His SPO2 dropped to 81%, Metoclopramide was discontinued, A Promethazine was given, diagnosed as adverse effect of metoclopramide. After 10 minutes the breathing return to normal and SPO2 98% maintained in room air while the spasticity of the limbs stopped after 2 hours.no further dystonic reaction were observed. **Conclusion:** Metoclopramide has rare adverse effects, but itsquite serious central nervus system disorders: Tardive dyskinesia, acute dystonic reactions, drug-induced parkinsonism, akathisia, other extrapyramidal symptoms, convulsive seizure, hallucinations, neuroleptic which need to be treated with well-trained health care providers and well equipped health facilities.

INTRODUCTION

Metoclopramide hydrochloride, a neuroleptic dopamine receptor antagonist used to treat gastric ailments, is reported to cause extrapyramidal movement disorder. Our case in rural district in Jazan, Southern area in Saudi Arabia the medical service provided by general practitioner, deal with simple cases only and refer the complicated one. A 44 years old Saudi male, came to primary health care center complain of epigastric pain after eating spicy meal he has epigastric pain localize not radiating and vomiting of whatever he drinks or eat he was assessed by general practitioner and diagnosed as acute gastritis , 10 mg metoclopramide. After he received the injection; the patient developed a spasticity and rigors over all his limbs, difficulty of speaking and a noisy breathing was heard but not strider, his tongue was contracted and retracted. He remained fully conscious during this episode. The patient connected to monitor, Oxygen mask, and placed on lateral position, His SPO2 dropped to 81%, Metoclopramide was discontinued, A Promethazine was given, diagnosed as adverse effect of metoclopramide. After 10 minutes the breathing return to normal and SPO2 98% maintained in room air while the spasticity of the limbs stopped after 2 hours.no further dystonic reaction were observed.

DISCUSSION

Metoclopramide hydrochloride, a neuroleptic dopamine receptor antagonist used to treat gastric symptoms like nausea and vomiting, Metoclopramide causes extra pyramidal symptoms, dystonic reactions which are followed a normal dose often unpredictable and is frequently prescribed by health providers. This may leads to problems for the patient and the caregiver and can result in life threatening consequences. Patients on metoclopramide should be monitored closely to detect these reactions early, and health facilities should be equipped to cope with the adverse effects before administration. a 44 years old Saudi male, came to primary health care center complain of epigastric pain after eating spicy meal he has epigastric pain localize not radiating and vomiting of whatever he drinks or eat he was assessed by general practitioner and diagnosed as acute gastritis , 10 mg metoclopramide. After he received the injection; the patient developed a spasticity and rigors over all his limbs, difficulty of speaking and a noisy breathing was heard but not strider, his tongue was contracted and retracted. He remained fully conscious during this episode. The patient connected to monitor, airway secured, oxygen mask, and placed on lateral position, full examination was performed, SPO281%, Temperature, 36.5 Blood Pressure 143/80 Pulse Rate65

and Respiratory Rate 16, diagnosis is metoclopramide adverse effect, then quick action was done medical doctor and nurse, Oxygen given by face mask and patient rolled to right side and kept on monitor. Discontinue Metoclopramide, a Promethazine was given. After 20 minutes the breathing return to normal and SPO2 maintained in room air while the spasticity of the limbs stopped after 2 hours. Metoclopramide was discontinued and no further dystonic reaction were observed. Close observation maintained. Vital signs after 30 min: SPO2 97 % without Oxygen, Temp 36.5, BP 143/80 Pulse Rate 65, Respiratory Rate 16/min patient discharge after two hours in good condition. Metoclopramide hydrochloride, a neuroleptic dopamine receptor antagonist used to treat gastric ailments, is reported to cause extra pyramidal movement disorders¹. It is a useful anesthetic adjuvant due to its antiemetic and prokinetics effects. Its antiemetic effect is the result of dopamine D2 receptor antagonism in the chemoreceptor trigger zone in the central nervous system. Extrapyramidal reactions are the most common acute side effect of metoclopramide with a reported incidence of 0.2%, but in the aged and young patients this incidence increase up to as high as 25%¹. Even though the mechanism underlying extrapyramidal reactions is unclear, a striatal dopamine D2 receptor blockade is believed to be the principal causeⁱⁱⁱ. Acute extrapyramidal symptoms tend to resolve rapidly and without serious sequela after the cessation or reduction of the causative drugs. Intravenous anticholinergic benztropine is effective for most dystonic reactions within 5 minutes. Antihistamine, benzodiazepines, beta-adrenergic antagonists (propranolol), beta-adrenergic agonists (clonidine), or dopamine agonists (amantadine) may also be used^{iv}.

In case control study conducted by L Ganzini et al to assess the prevalence of metoclopramide-induced tardive dyskinesia and acute extrapyramidal movement disorders, it revealed the relative risk for tardive dyskinesia was 1.67 (95% confidence interval, 0.93 to 2.97), and the relative risk for drug-induced parkinsonism was 4.0 (95% confidence interval, 1.5 to 10.5). Metoclopramide-treated patients had significantly greater severity of tardive dyskinesia, drug-induced parkinsonism, and subjective akathisia than controls. Use of metoclopramide was associated with impairment in ambulation and increased use of benzodiazepines. Metoclopramide-treated diabetics had significantly greater severity of tardive dyskinesia than metoclopramide-treated nondiabetics, it concluded, Metoclopramide use is associated with a significantly increased prevalence and severity of several extrapyramidal movement disorders^v. In other prospective study investigated the incidence of extrapyramidal events amongst patients receiving 'first' prescriptions for metoclopramide (n = 2557) and prochlorperazine (n = 2811) from general practitioners in the Northern Region using community pharmacists to capture prescriptions. There were 12 reports of acute dystonic-dyskinetic events following metoclopramide and the incidence of this reaction was significantly greater in those under 30 years than in those 30 years and over. Following prochlorperazine there were eight reports of Parkinsonism in patients whose ages were known; seven were over 60 years.

The incidence in those over 60 years was significantly higher than in those less than 60 years^{vi}. The incidence of metoclopramide-induced dystonic reactions in studies carried out in the developed world is reported to be 1:500 patients^{vii}, while in developing world the data is very scarce on metoclopramide-induced reactions, hence the incidence of these reactions is underestimated due to lack of data collection and under-reporting of cases, female, children and adult are receiving a high dose of metoclopramide as well as it is over the counter anti-emetic drug^{viii}. This adverse effect need well equipped health facility and trained care providers, in our case the patients had been asked if he had any drug allergy, he said he did not, but after this event we ask the patient again about similar condition he said yes, but he forgot, so health education for the patient and his family was introduced, and case report to the medical director of health center to ensure the availability of all lifesaving equipment and medicine, and all care provider to cautious when prescribing metoclopramide.

CONCLUSION

Metoclopramide has rare adverse effects, but its quitserious central nervous system disorders: Tardive dyskinesia, acute dystonic reactions, drug-induced parkinsonism, akathisia, other extrapyramidal symptoms, convulsive seizure, hallucinations, neuroleptic which need to be treated with well-trained health care providers and well equipped health facilities.

REFERENCES

- ⁱPharmacology and Physiology for Anesthesia *Foundations and Clinical Application* Second Edition • 2019
- ⁱⁱMontvale NJ. *Physicians' desk reference*. 50th ed. Montvale, New Jersey: Medical Economics; 1996. Metoclopramide; pp. 2068–2070
- ⁱⁱⁱKapur S, Zipursky R, Jones C, Remington G, Houle S. Relationship between dopamine D(2) occupancy, clinical response, and side effects: a double-blind PET study of first-episode schizophrenia. *Am J Psychiatry*. 2000;157:514–520.
- ^{iv}Kamin J, Manwani S, Hughes D. Emergency psychiatry: extrapyramidal side effects in the psychiatric emergency service. *Psychiatr Serv*. 2000;51:287–289. [https:// www.ncbi.nlm.nih.gov/pmc/articles/PMC3460160/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3460160/)
- ^vGanzini L, Casey DE, Hoffman WF, McCall AL. The prevalence of metoclopramide-induced tardive dyskinesia and acute extrapyramidal movement disorders. *Arch Intern Med*. 1993 Jun 28;153(12):1469-75. PMID: 8512437.
- ^{vi}<https://pubmed.ncbi.nlm.nih.gov/2594960/>
- ^{vii}Guala, A., Mittino, D., Ghini, T. and Quazza, G., 1992. Are metoclopramide dystonias familial?. *La Pediatria medica e chirurgica: Medical and surgical pediatrics*, 14(6), pp.617-618.
- ^{viii}Karagoz, G., Kadanali, A., Dede, B., Anadol, U., Yucel, M. and Bektasoglu, M.F., 2013. Metoclopramide-induced acute dystonic reaction: a case report. *The Eurasian journal of medicine*, 45(1), p.58.
