Research Paper

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Extrapyramidal Side Effects of Metoclopromide Administration in Pregnant Patient : A case report

Medical Science

KEYWORDS :

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ABSTRACT

Metoclopromide is an antiemetic & gastroprokinetic drug.The anti-emetic properties of Metoclopromide results from its antagonism of central & peripheral dopamine receptors . It is frequently used for nausea & vomiting in pregnancy & thought to be safe.

Extrapyramidal symptoms usually appear with dosage range from 30-40 mg/day.These are usually seen during the first 24-48 hours of treatment with Metoclopromide. This case report presents 10 weeks pregnant patient who experienced oculogyric crisis after a single dose of 10 mg Metoclopromide.

Case Report :

A 21 year old 10 weeks pregnant patient came to casuality department of Bharati Hospital with staring look on right side. Patient was suffering from Hyperemesis Gravidarum of pregnancy , a condition in the first trimester of pregnancy with excessive vomiting because of B-HCG hormonal spurge in the blood. Patient has been prescribed Tb. Metoclopromide by her treating Obstetrician in a dose of 10 mg a day prior to her hospital admission.

Patient was conscious , oriented with bilateral fixed upward lateral gaze on right side. Pupils were bilateral equal & reacting to light . She was in rigid opisthotonic posture with her neck fixed backward & laterally . Her vitals were normal Pulse : 80 beats/ min , blood pressure was 130/80 mm of Hg .

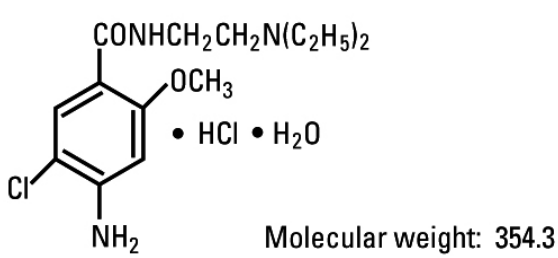
We have done her EEG & MRI BRAIN to rule out any other cause which was normal.Her investigations i.e . CBC , Blood sugar , Urea , serum creatinine , Liver function tests , Serum electrolytes , Serum Calcium were normal.

On admission patient received Inj. Phenargan 25 mg IM & Inj. Midazolam 2 mg to tide over crisis .Gradually her symptoms began to abate & after 30 mins all the dystonic reaction completely disappeared.

Discussion :

Metoclopramide .

Metoclopramide hydrochloride is a white or practically white, crystalline, odorless or practically odorless powder. It is very soluble in water, freely soluble in alcohol, sparingly soluble in chloroform, practically insoluble in ether. Chemically it is 4-amino-5-chloro-N-[2-(diethylamino)ethyl]-2-methoxybenzamide monohydrochloride monohydrate. It has the following structural formula:



Metoclopramide Injection, USP is a sterile, nonpyrogenic solution of metoclopramide hydrochloride in water for injection. Each milliliter contains metoclopramide base 5 mg (as the hydrochloride monohydrate); 8.5 mg sodium chloride. May contain hydrochloric acid and/or sodium hydroxide for pH adjustment; pH 4.4 (2.5 to 6.5).

The solution contains no bacteriostat, antimicrobial agent or added buffer and is intended for use only as a single-dose injection. When smaller doses are required, the unused portion should be discarded. This product is light sensitive. It should be inspected before use and discarded if either color or particulate is observed. Metoclopramide Injection is intended for intravenous or intramuscular administration.

Extrapyramidal side effects of Metoclopromide are most common & observed with reported incidence of 0.2 – 1 % (1). This is in contrast to aged & very young patients where incidence increases to 25 % .(3) Few cases have been reported of oculogyric crisis after taking Metoclopromide but mostly involving paediatrics & adult patients receiving Metclopromide regularly . (1 , 2)

In our case patient has experienced extrapyramidal side effects of Metoclopromide after almost 24 hours of taking 10 mg of metoclopromide . Even though the mechanism of extrapyramidal side effects of Metoclopromide is not clear , a striatal dopamine D2 receptor blockade is believed to be the principle cause (4) . Extrapyramidal side effects may occur at recommended dose & usually occur within first 24-72 hours of administration.(5) Intravenous anticholinergic benzotropine is effective for most dystonic reaction within 5 minutes. Antihistaminics , benzodiazepins may be also used.(6) In our case we have used Midazolam 2 mg & Inj Promethazine 25 mg & our patient recovered dramatically.

In July 2013 European Medicine Agency recommended change in the use of Metoclopromide as follows ;

The European Medicines Agency's Committee on Medicinal Products for Human Use (CHMP) has recommended changes to the use of metoclopramide-containing medicines in the European Union (EU), including restricting the dose and duration of use of the medicine to minimise the known risks of potentially serious neurological (brain and nerve) side effects.

Metoclopramide-containing medicines have been authorised separately in individual Member States of the EU, with differing licensed indications such as nausea and vomiting of various causes (for example after treatment with anticancer chemotherapy or radiotherapy, after surgery, or associated with migraine) and gastrointestinal motility disorders (conditions in which the normal passage of food through the gut is delayed).

The review of metoclopramide was carried out at the request of the French medicines regulatory agency (ANSM), following continued safety concerns over side effects and concerns over efficacy. ANSM asked the CHMP to review the benefits and risks of these medicines in all age groups and to recommend consistent indications across the EU. The review confirmed the well-known risks of neurological effects such as short-term extrapyramidal disorders, a group of involuntary movement disorders that may include muscle spasms (often involving the head and neck), and tardive dyskinesia (uncontrollable movements such as grimac-

ing and twitching). The risk of acute (short-term) neurological effects is higher in children, although tardive dyskinesia is reported more often in the elderly, and the risk is increased at high doses or with long-term treatment. The evidence indicated that these risks outweighed the benefits of metoclopramide in conditions requiring long-term treatment. There have also been very rare cases of serious effects on the heart or circulation, particularly after injection.

The Committee recommended that metoclopramide should only be prescribed for short-term use (up to 5 days), that it should not be used in children below 1 year of age and that in children over 1 year of age it should only be used as a second-choice treatment (after other treatments have been considered or tried) for the prevention of delayed nausea and vomiting after chemotherapy and for the treatment of post-operative nausea and vomiting. In adults, it may be used for the prevention and treatment of nausea and vomiting such as that associated with chemotherapy, radiotherapy, surgery and in the management of migraine. In addition, the maximum recommended doses in adults and children should be restricted, and higher strength formulations removed from the market.

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