EMERGENCY THERAPEUTIC ATTITUDE IN A CASE OF ACUTE INTOXICATION WITH METOCLOPRAMIDE IN THE PEDIATRIC PATIENT

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ABSTRACT: Metoclopramide is authorized through the national procedure in the EU Member States, is a selective dopamine receptor blocker, (D2) and serotonin (5-HT3), inhibits chemoreceptors residing within the trigger, lessens the sensitivity of the nerves that transmit impulses visceral the pylorus and duodenum to induce vomiting. Reevaluation of drugs containing metoclopramide was initiated in December of 2011, at the request of France, in accordance with the provisions of article 31 of Directive (EC) 2001/83/EC. This was followed by another revaluation metoclopramide-containing drugs used in children, made by EU Member States, as provided for in article 45 of Regulation (EC) No. 1901/2006 on medicinal products for pediatric, and after which, in 2010, it has identified the risk of neurological adverse reactions and have been recommended a series of measures to reduce risk to a minimum.

Keywords: pediatric patient, metoclopramide, adverse reaction

INTRODUCTION: Metoclopramide is an emetic central actions. Normalizes motility of gastro-intestinal and gallbladder, antispasmodic effects, stimulation of esophageal peristalsis, gastric and duodenal and pylorus does to relax. Compared to other antiemetics and antispasmodic action, provides central predominantly, the specific centers that regulate digestive activity.(Bateman et al, 1985, Dingli 2007) Metoclopramide can give side effects in children, even after therapeutic doses, a dyskinetic extrapyramidal syndrome (oculogyric crisis, in the facial muscle contractures- tongue or neck-torticollis), reversible, persist syndrome 8-12 hours after the suspension of treatment.(Fahn et al, 2007, Yis et al 2005). These side effects generally occur after 1-3 hours after starting treatment (sometimes even after a single administration) and impose its discontinuation. The incidence of dystonic reactions in children and young adults is greater at high doses over 0, 5 mg/kg per day.

The preparation is known since 1964. Metoclopramide is rapidly absorbed from the digestive tract with a bioavailability of 76 ± 38% (with large individual variations).

Cmax is reached in less than an hour from healthy volunteers after administration of a single dose of 20 mg metoclopramide orally, and in 2.5 hours after oral administration or nazogastric doses of 0,10-0,15 mg/kg administered 4 times a day at preterm, Cmax having value of 80 ng/ml in healthy volunteers and 18 ng/ml in preterm newborns. Metoclopramide is widely distributed into tissues, including the CNS. The apparent volume of distribution is 2,2-3.4 l/kg. In small proportion binds to plasma proteins by 40%.

Hepatic metabolism of metoclopramide is made in part from the first passage through the liver and glucurononoconjagation lime. Half life is 4-6 hours. The preparation is excreted from the body mainly through the kidney within 24-72 hours approximately 85% of the administered dose, of which 30% as unchanged.

MATERIALS AND METHODS:

Patient b. C aged 10 years, without personal history or collateral-significant, critically important in urban areas is accompanied by dad, the UPU service in Pediatrics, so as a result of accidental ingestion 30 drops metoclopramide (a bottle containing water solution of Metoclopramide 0,665 g% -1 mg = 3 drops) in place of vitamin C. Ingestion occurred after 60 minutes. Clinical examination shows general status influenced, G-30 Kg,-1.40, present in the skin of generalised maculo-pruritic papules with a tendency to combine, vicious neck-position stiff neck, drowsiness-affirmative symptoms appeared at 40 minutes for
ingestion of metoclopramide. Examination of the cardio-
respiratory apparatus highlights: FR-18 r/min, rhythmic
heart FC-78 b/min, TA-100/70 mmHg, SaO2-98%.

Laboratory tests in emergency had highlighted
both the normal values test biochemical or hematologic.

The clinical diagnosis of adverse reactions to
metoclopramide, accidental administration of 10 mg
active substance (therapeutic dose required per day is 15
mg, at 30 kg-0.5 mg/kg):
- from the central nervous system-drowsiness and
extrapyramidal effects-stiff neck
- immediate hypersensitivity-cutaneous eruption

Treatment goals were:
. prevention of drug absorption
. toxic elimination from the body while placing
. the administration of antidotes
. symptomatic treatment

Detoxication methods enabled were divided into
the following groups:
1. Methods of stimulation of the natural detoxication
processes-gastrointestinal tract clean out-challenge the
vomiting reflex
2. Methods of therapy type antidote (pharmacological)
- administration of antiparkinson drug - 2 mg akineton-
biperiden-1/2 po, together with administration of
diazepam 5 mg IV
- antihistamine - claritine-loratadinum 10 mg po together
with administration of corticosteroids iv. -
hemisuccinat of hydrocortisone 10 mg/kg
3. Artificial methods of detoxication, went along with the
support of vital functions monitored throughout therapy
with dynamic control of hemodynamic indices and acid-
base balance.
Infusion is applied to reduce the concentration of toxic
substances in blood by the parenteral administration of
hydro-electolytic solutions (intravenous infusion with
saline and glucose) and create conditions for the effective
stimulation of diuresis.

Clinical evolution was favorable with the
disappearance of both the neurological phenomena of
drowsiness and extrapyramidal reaction, as well as those
of the immediate type hypersensitivity. The patient has
left the emergency module in 6 hours, on his father's
signature, without returning this later for another
checkup.

RESULTS AND DISCUSSION:
In situations of acute intoxication with
metoclopramide aims to:
- Clinical diagnosis (lab) intoxication exogenous
clinic interpretation of obtained results.
- Application of advanced methods of treatment
of intoxication, including accelerated disposal
measures of mitigation in the body toxicity by
using formulae and application of symptomatic
therapy antidote, correction and support the vital
functions of the body, which had been damaged
by the action of toxic.
- Prevention-an explanation of how parents of
metoclopramide; referral of possible reactions to
the therapeutic doses or overdose.
- In 2009, the USFDA required all manufacturers
of metoclopramide to issue a black box warning
regarding the risk of tardive dyskinesia with
chronic or high-dose use of the drug.

CONCLUSIONS:
Caution is advised in case of metoclopramide
in children and young adults because of the risk of
neurological side effects.

Drug toxicology study of a therapeutic index of
medicinal preparations, adverse reactions and their
dangerous actions on the body and develop measures on
prevention and treatment of drug poisoning.
Diagnose and quick therapeutic attitude leads to a
favourable evolution of adverse reactions caused by
metoclopramide.

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