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COLD POWDERS: PARACETAMOL POISONING

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Introduction: In today's world, where medical science and pharmacy are rapidly developing, one of the most widely used drugs is paracetamol (N-acetyl para-aminophenol). Believing it to be effective and safe when used appropriately, people undoubtedly take it in large doses, which often leads to serious consequences. Violation of dosage and exceeding the recommended intake can lead to serious consequences. One of these consequences is potentially fatal poisoning, which can occur when paracetamol in powder form is used for self-medication and as a result of accidental overdose.

Objective: This research work is aimed at studying and analyzing situations of paracetamol poisoning caused by the use of powdered forms of the drug as antiviral agents.

In addition, this work aims to make an important contribution to the field of medical safety and prevention of dangers among the population. Increasing awareness of the toxicity of paracetamol when administered in powder form and developing effective countermeasures can help avoid serious consequences and improve the quality of medical care in this context.

Materials and methods: Theoretical: review and analysis of scientific and methodological literature.

Practical: personal observation of patients with a similar clinical picture.

Results and discussion: People are so busy these days that they don't even have time to get sick and take proper treatment. That's why the so-called "perfect" helper is the cold powder, which contains the well-known paracetamol.

Paracetamol (acetaminophen) is an analgesic and antipyretic drug that is available without a prescription. It is mainly taken orally (immediate and extended-release forms), but also intravenously and rectally.

The maximum serum concentration after intravenous administration of paracetamol is reached in ~15 minutes, after oral administration in the form of a suspension - in ~30 minutes, in the form of tablets or capsules - in 2-4 hours, and after the use of suppositories - within 1-4 hours.

Toxic activity is demonstrated by the paracetamol metabolite N-acetyl-p-benzoquinimine (NAPQI). In conditions of a massive overdose, the metabolic pathways characteristic of paracetamol (conjugation with glucuronates and sulfates) are saturated, and glutathione resources in the liver are depleted, which prevents the neutralization of NAPQI, which is formed in large quantities.

Today, we will take a closer look at real cases of poisoning with cold powders containing paracetamol.

There were 2 people in the inpatient department - a woman of 27 years and a man of 56 years - with the same clinical picture and diagnosis - Acute poisoning with N-acetyl para-aminophenol.

The single toxic dose for adults is >150 mg/kg.

The toxic dose is calculated according to the patient's actual body weight.

1) First case: A 71 kg woman drank 11 sachets of Pharmacitron (23 g each) - 230 g in 3 days with the following composition

- Ascorbic acid 50mg
- Paracetamol 500mg
- Phenylephrine 10 mg
- Pheniramine 20 mg

5 sachets on the first day, 4 on the second and 3 on the third.

Dosage instructions: no more than 69 g or 3 sachets per day.

2) The second case: A 99 kg man consumed 16 sachets of Amicitron (23 g each), 368 g, over 4 days, all in one sachet:

- Paracetamol 500 mg
- Ascorbic acid 50 mg
- Phenylephrine 10 mg
- Pheniramine 20 mg

6 sachets on the first day, 5 sachets on the second day, 4 sachets on the third day, 1 sachet on the fourth day (in the morning before hospitalization).

Dosage: no more than 69 g or 3 sachets per day.

Clinical picture:

On the first day of admission, the patients had no symptoms, only in the evening they had slight nausea and discomfort in the epigastrium.

At the end of the second day, the patients reported severe pain in the right hypochondrium, pallor, and vomiting.

On the third day, the woman developed hemorrhagic diathesis and severe weakness with incontinent vomiting, as a result of which the patient was urgently admitted to the inpatient department of the hospital, and the man noted yellowing of the skin and mucous membranes and continuous vomiting.

On the fourth day, the man lost consciousness, and his wife called an ambulance.

Diagnosis:

After admission to the emergency department, the patient was prescribed an X-ray of the upper extremity, VEPGDS, ultrasound of the upper extremity, and ECG. Immediately after hospitalization, tests were taken (complete blood count, general urinalysis, biochemical blood count, blood glucose, coagulogram):

- Aminotransferase activity (ALT, AST), bilirubin, creatinine concentration increased)
- Hypoglycemia
- Metabolic acidosis

Treatment:

Immediately after the examination, the patients were administered the antidote - NAC intravenously:

(3 doses within 21 hours):

I dose - 150 mg/kg (max. 16.5 g) per 200 ml of 5% glucose or 0.9% NaCl over 60 minutes;

II dose - 50 mg/kg (max. 5.5 g) per 500 ml of 5 % glucose or 0.9 % NaCl for 4 hours;

III dose - 100 mg/kg (max. 11 g) per 1000 ml of 5 % glucose or 0.9 % NaCl for 16 hours.

Gastric lavage.

Activated carbon per os

The woman's vital signs and hemodynamics were compensated.

The man fell into a coma and metabolic acidosis, which required urgent hemodialysis.

Both patients were saved with the continuation of further conservative therapy.

Conclusions: In summary, it can be seen that by considering real cases of poisoning and taking into account the increase in incidents of paracetamol use in unacceptable doses, more and more people will be able to increase their awareness of the toxicity of paracetamol when used in powder form and will understand the basics for preventing such cases of poisoning, which will help to avoid serious consequences and improve the quality of medical care in this context.