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SELECTIVE BLOCKAGE OF GASTRIC SECRETION DURING ENTERAL TUBE FEEDING OF POSTOPERATIVE PATIENTS

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Adequate nutritional support of the patient in the early postoperative period after surgical interventions on the digestive organs is carried out both parenterally and enterally [5]. It is difficult to overestimate the benefits of both methods of feeding patients. Today, there is parity in the choice of a certain type of nutritional support, but the expediency of switching to enteral nutrition (EN) is not in doubt [4].

However, despite the indisputable advantages of EN in relation to parenteral, and its use can cause a number of serious complications, such as gastrointestinal, metabolic, mechanical and infectious [3]. The development of gastrointestinal complications directly depends on the composition of the EN mixture. Among gastrointestinal complications, the frequency of which is the highest - 30-38%, gastrointestinal bleeding (GIB) prevails [1].

The development of bleeding is realized through the third (intestinal) phase of gastric secretion, the physiology of which has not yet been sufficiently studied [2].

The aim of the study was to analyze the causes of the development of GIB in the early postoperative period against the background of the use of EN and the development of new methods of their prevention.

Materials and methods. 60 patients who underwent operations for a perforated duodenal ulcer (38 patients), as well as on the pancreas for acute (8 patients) and chronic pancreatitis (14 patients) were examined. In all patients, the initial (basal) pH level of the stomach was determined using a portable pH meter. The following pH measurements were made every 15 minutes during the hour from the start of EN.

For EN, polymer balanced mixtures (PBM) were used (average osmolality 380 mosm/l, pH – 6.8). To reduce gastric secretion, the patients of the main group (20 people) used their own method, which consisted in the local injection of an acidin-pepsin solution (10 ml/ every 4 hours of EF) directly into the probe for EN, the patients of the 1st comparison group (20 people) received parenteral famotidine (40 mg/day), 2 group (20 people) - omeprazole (40 mg/day).

Results and discussion. The basal pH level of the stomach against the background of the use of EN was 2.0 (medium acidic content), which is explained by the composition of PBM: milk and soy proteins (1:1), unsaturated fatty acids (82%), poly- and oligosaccharides: maltodextrins (82%) and maltose (15%). It is the components of the PBM, namely milk and soy proteins, poly- and oligosaccharides stimulate gastric acid production through its third (intestinal) phase. In the absence of

antisecretory therapy, indicators of gastric acid production after 15 minutes after the introduction of this mixture, the level of strongly acidic content was reached (pH=1-1,5).

Acute erosive bleeding occurred in a total of three patients (5%), and all of them belonged to the 1st comparison group (15%).

The use of histamine H₂-receptor blockers made it possible to reach a moderately acidic pH level, and proton pump blockers (PPI) - a slightly acidic pH level (after 30 minutes - pH=4.0). With local administration of acidin-pepsin solution (pH=2) after 15 min. the gastric pH level also reached slightly acidic (pH=5.0). The low therapeutic effect of blockers of H₂-receptors of histamine is associated with the blocking of only the second (humoral) phase of gastric secretion in the absence of influence on other phases.

The high efficiency of PPI is due to the drug blocking all three phases of gastric secretion, and acidin-pepsin to the direct effect on the third (leading in this case) intestinal phase. Since today there are no known selective blockers of the third (intestinal) phase of gastric secretion, this technique was patented (Declarative patent of Ukraine for utility model # 10025).

Conclusions.

The use of PBM is dangerous for the development of GIB in the early postoperative period in 5% of patients due to the stimulation of the third (intestinal) phase of gastric secretion, which requires the prophylactic appointment of antisecretory drugs.

Histamine H₂-receptor blockers are insufficiently effective in 15% of cases, as they affect only the humoral phase of gastric secretion.

PPI have proven to be the best, an alternative method can be considered the local application of acidin-pepsin solution, which selectively blocks the intestinal phase of gastric secretion.

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