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## **DIAGNOSTICS OF MOTOR-EVOCATORY DISORDERS OF THE GASTRODUODENAL PASSAGE IN THE EARLY POST-OPERATIVE PERIOD**

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Operative interventions in the pyloroduodenal zone can disrupt the closing function of the pylorus and cause asynchrony in the work of the gastroduodenal junction in the form of duodeno-gastric reflux (DGR) [3]. Violations of the motor-evacuatory function (MEF) of the gastroduodenal zone require timely medical correction [2]. The use of gastroduodenoscopy for the diagnosis of these disorders is contraindicated, in connection with this there is a need to develop new methods of diagnosis of these complications [1,4].

**The aim of the work** is the study of motor-evacuation disorders of the gastroduodenal junction in the early postoperative period using our methodology after surgical interventions in the pyloroduodenal zone.

### **Materials and methods of research.**

We developed a method of ultrasound diagnosis (USD) of violations of the MEF of the gastroduodenal junction in the early postoperative period, which consisted of the following. Before the study, patients on an empty stomach orally took 60 ml of echovist (echocontrast substance), which was washed down with a glass of water. The patient was examined in a sitting position. The sensor was placed 3 cm above the navel and to the left of the midline (projection of the outlet of the stomach and the pyloric sphincter). The degree of severity of DGR was measured by the frequency of regurgitation of the contents of the duodenum into the stomach (normally it does not exceed 1-2 times per minute). According to the results of the study, appropriate treatment was prescribed.

To assess the degree of violations of the MEF of the gastroduodenal transition, we used our classification, according to which three degrees of severity were distinguished.

### **Violation of a light degree:**

- reduction of gradients of contraction of the gastric outlet and opening of the pyloric sphincter to 30% of normal values;
- DGR is absent or up to 5 times per minute;
- there is no dyscoordination in the work of the gastroduodenal zone;
- the main complaints of patients are reduced to a feeling of heaviness in the stomach, belching of acid or air after eating, and short-term nausea that goes away on its own.

**Violation of the average degree:**

- reduction of gradients of contraction of the gastric outlet and opening of the pyloric sphincter by 30-60% of the norm;
- the frequency of DGR is 5-10 times per minute;
- periodic dyscoordination in the work of the gastroduodenal zone;
- the patient complains of distension and pain in the upper abdomen, prolonged nausea, and periodic vomiting with bile impurities.

**Violation of a severe degree:**

- reduction of gradients of contraction of the gastric outlet and opening of the pyloric sphincter by more than 60%;
- the frequency of DGR is more than 10 per minute;
- persistent dyscoordination in the work of the gastroduodenal zone;
- complaints of excruciating pain in the upper abdomen, nausea, regular (daily) vomiting with bile impurities, and general weakness.

Using the developed methodology, the results of the surgical treatment of 143 patients with duodenal localization of the ulcer were analyzed, of which 73 patients were found to have a subpyloric ulcer of the duodenum. Pyloric surgery (gastroduodenoplasty) for subpyloric ulcer was performed in 37 patients - control group, and pylorus-saving intervention (duodenoplasty) was performed in 36 patients (main group) according to our method.

**Results of the research.**

The vast majority of patients (143 people (95.33%)) who underwent duodenoplasty, as well as patients of the main group, did not have any significant complaints after the restoration of the work of the digestive tract. The frequency of DGR was  $1.1 \pm 0.04$  per minute. The work of the gastroduodenal zone was coordinated, and a rhythmic and regular flow of the contrast agent from the stomach to the duodenum was noted. In 7 patients (4.67%), who were operated on according to the proposed method, a decrease in the motor activity of the antral part of the stomach was noted during the first week after this operation (according to the results of the contractility gradient of the exit part of the stomach). As early as two weeks after surgery, 71.43% of such patients (5 people) registered the restoration of the rhythmic and portioned intake of food from the stomach to the duodenum, the frequency of DGR did not exceed normal values ( $1.9 \pm 0.03$  per minute).

In the early postoperative period, 9 patients (24.32%) of the control group developed MEF disorders of the gastroduodenal zone, which were diagnosed using ultrasound. In 6 patients (16.21%) of the control group, the pyloric sphincter was not detected by ultrasound, there was a continuous delayed type of emptying from the stomach in the duodenum, periodic dyscoordination in work, and the frequency of DGR was  $7.2 \pm 1.2$  per minute - a violation of the MEF of the gastroduodenal zones of medium degree. In 3 patients (8.11%), there was a violation of MEF of the gastroduodenal zone of a severe degree: the contrast medium quickly (within a few minutes entered the duodenum), the frequency of DGR was  $15.7 \pm 0.3$  per minute, there was a pronounced dyscoordination in the work of the gastric outlet and duodenum. Regardless of the course of anti-relapse drug treatment, patients complained of aching

pain in the upper half of the abdomen, a feeling of distension in the abdomen, nausea, and the urge to vomit.

**Conclusions.** Thus, analyzing the results of the study of the motor-evacuatory function of the stomach using the proposed method of ultrasound in the early postoperative period, it was established that duodenoplasty has significant advantages over pyloric-destructive operations, which are accompanied by severe functional disorders of MEF of the gastroduodenal zone of various nature and severity in 24,32% of patients.

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