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Features of diagnostics and surgical tactics for Hiatal hernias

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Abstract---The article presents a prospective analysis of the diagnosis and surgical treatment of 104 patients with hiatal hernia, who were operated on in the departments of endoscopic surgery Samarkand City Medical Association and the department of Thoracoabdominal oncosurgery of the State Institution Republican Specialized Scientific and Practical Medical Center of Surgery named after Academician V.Vakhidov. Patients underwent laparoscopic crurorrrhaphy, fundoplication according to Nissen and Tupe, as well as open fundoplication according to Chernousov with selective vagotomy and pyloroplasty.

Keywords---hiatal hernia, gastroesophageal reflux disease, laparoscopic crurorraphy, antireflux surgery.

Introduction

Recently, among various diseases of the digestive tract, hernia of the esophageal orifice of the diaphragm is more common, yielding to diseases such as chronic cholecystitis and ulcers of the stomach and duodenum [1, 4, 8, 13]. With the development of pharmacotherapy, the treatment of gastroesophageal reflux

disease with hernia of the esophageal orifice of the diaphragm has improved and it can be said that there is still a dispute between gastroenterologists and surgeons determining the tactics of treatment of gastroesophageal reflux disease. According to some authors, for a long time the use of prokinetic pump inhibitors not only reduces symptoms, but also leads to a complete temporary improvement in the patient's condition. But upon termination of conservative therapy, the symptoms of gastroesophageal reflux disease appear and this leads to the development of various complications [2, 5, 9, 11, 12, 18]. Of the complications, ulcers, stricture of the esophagus, the development of bleeding and perforation of the esophagus are most common, but especially due to metaplasia of the cylindrical cell epithelium, adenocarcinoma of the esophagus can develop against the background of "Barrett's esophagus" [3, 7, 15, 17]. The development of such formidable complications shows how urgent surgical treatment of this pathology is relevant. The introduction and development of minimally invasive methods of treatment, especially laparoscopy, gave "greater access" in the treatment of patients with gastroesophageal reflux disease and expanded indications for surgical treatment [6, 9, 10, 14, 16].

Aim of the research

To study the features of diagnosis and different tactics of surgical treatment of patients with gastroesophageal reflux disease.

Materials and Methods

We analyzed the results of surgical treatment of 104 patients with hernia of the esophageal orifice of the diaphragm operated in the departments of endosurgery of the Samarkand City Medical Association and the department of Thoracoabdominal oncosurgery of the State Institution Republican Specialized Scientific and Practical Medical Center of Surgery named after Academician V.Vakhidov in the period 2019-2021. The age of patients ranged from 21 to 67 g, on average 38.5 l. Female patients prevailed: 63 (60.6%) women, 41 (39.4%) men. By age, it can be seen that the bulk (84.6%) were patients of working age (Table 1).

Table 1
Distribution of patients by gender and age

Gender	19-44	45-59	60-74	75 <
Men (n=41)	16	18	7	-
Women (n=63)	31	21	11	-
Total (n=104)	47	39	18	-

The patients' complaints were diverse: of the esophageal complaints, there was mainly heartburn (93%), belching (65%), pain in the epigastrium and chest (34%), nausea and vomiting were observed in 27% of patients, mainly in patients with chronic cholecystitis, hiccups and regurgitation in 12% of patients. About 16% of patients complained of extraesophageal complaints (shortness of breath, pain in the heart, palpitations, coughing).

All patients underwent standard laboratory and instrumental methods of examination: including EGDFS (in dynamics), ultrasound of the abdominal cavity, ECG, X-ray examinations (overview contrast-free and contrast radiography of the organs of the upper digestive tract), MRI, MSCT, EchoCG.

Endoscopic examination was performed several times (before and after surgery). Radiopaque examination was performed on all patients. The patient was examined in horizontal and vertical positions. All patients in the preoperative period were examined by specialists (cardiologist, pulmonologist, anesthesiologist, women gynecologist, as indicated by an endocrinologist, etc.). When distributing patients with hiatal hernia, we used the classification of B.V.Petrovsky and N.N.Kanshin (1967). When determining reflux esophagitis, the classification of M.Savary and G.Miller was used. Patients with Barrett's esophagus are divided according to the Prague classification proposed by an International Working Group in 2004.

During the examination, in addition to hernia of the esophageal orifice of the diaphragm, various concomitant pathologies were revealed in patients: pathologies of the circulatory organs – in 37 (35.6%) patients, in 4 (3.8%) – respiratory organs, in 31 (29.8%) patients – obesity of varying degrees, and 18 (17.3%) patients suffered from diabetes mellitus. And also, several pathologies of the abdominal cavity organs were revealed, such as chronic calculous cholecystitis, hernias of the anterior abdominal wall, etc. Some patients had a combination of several concomitant diseases. Patients with concomitant pathologies were prepared for operations in outpatient and inpatient conditions. One patient had a recurrent hiatal hernia.

The patients were divided into 3 groups: group 1 consisted of 71 (68.3%) patients who underwent Nissen laparoscopic fundoplication. Patients of group 2 (n=26 (25%)) underwent fundoplication by Tupe laparoscopically. And 7 patients of the 3rd group (6.7%) underwent open surgery according to the indication.

Results and Discussions

During endoscopic examinations, 46 (44.2%) patients underwent endoscopy with narrow-spectrum imaging (in NBI mode) on an Olympus CV-170 endoscope. Of these, 31 patients suspected of various pathologies of the esophageal mucosa during endoscopy took biopsies from several sites according to the Seattle Protocol (at least 3-4 fragments at a distance of about 1-2 cm from each other), followed by histological examination to verify pathological changes. At the same time, 23 patients in 42 sites revealed the presence of cylindrical cells and goblet cells in the epithelium of the esophagus, which are characteristic signs of Barrett's esophagus. Patients with suspected adenocarcinoma were sent to an oncological dispensary for deeper studies and for complex treatment.

Axial hernias were mainly detected in patients (n=96 (92.3%)): from the lower esophageal - 12, cardiac 46 cases, cardiofundal - 35 cases and in 3 cases subtotal axial hernias of the esophageal orifice of the diaphragm were detected. Paraesophageal hernias were detected in 6 (5.8%) patients: fundal in 4 cases and antral in 2 cases. In 2 (1.9%) hernias of the Larrey and Morgagni diaphragm

triangles were detected. All operations were performed under general endotracheal anesthesia. Indications for open operations were: patients with concomitant diseases, recurrent hernias with signs of infringement.

Patients of group 1 (n=71 (68.3%)) underwent laparoscopic cruroraphy, Nissen fundoplication, patients of group 2 (n=26 (25%)) underwent posterior cruroraphy and fundoplication by Tupe laparoscopically. And patients (n=7 (6.7%)) of group 3 underwent laparotomy, cruroraphy, and to improve the effectiveness and prevention of postoperative complications, according to indications, selective proximal vagotomy and pyloroplasty according to Geinik-Mikulich were performed (Fig. 1. a, b).

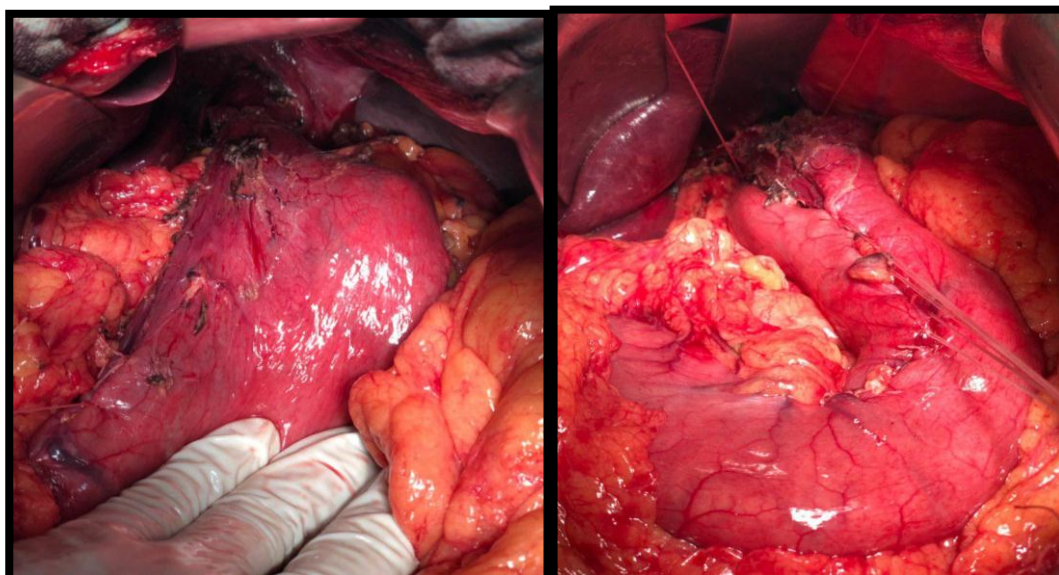


Figure 1. Stages of the operation. Fundoplication according to Nissen-Chernousov and pyloroplasty according to Geinik-Mikulich.

Simultaneous operations were performed simultaneously in 33 patients with concomitant abdominal diseases. Of these, cholecystectomy was performed in 25 (24%) patients, hernioplasty of hernias of the anterior abdominal wall in 5 (4.8%) patients, in 1 (0.96%) patient, liver formation was detected and biopsy material was taken. 2 (1.9%) patients underwent voluntary surgical sterilization at will. In the postoperative period, all patients received standard treatments, early activation of patients. Patients were discharged on average 2-3 days after operations. Control EGDFS was performed 1-, 3-, 6-months after operations. The effectiveness of the operations was the disappearance of complaints, stopping the need for propone pump inhibitors and improving the quality of life of patients.

Conclusions

1. Patients with hernia of the esophageal orifice of the diaphragm in the preoperative period should be thoroughly examined according to the standard, especially endoscopy in narrow-spectrum mode, for early detection of various pathological changes in the esophageal mucosa and

histological studies. If esophageal adenocarcinoma is detected, patients should be referred to specialized scientific and medical centers for surgical and comprehensive treatment.

2. Basically, fundoplication according to Nissen gives a good result, Patients with concomitant diseases, recurrent hernias and with the adhesive process of the abdominal cavity, fundoplication according to Tupe is shown.
3. Patients with severe reflux esophagitis with axial hernia of the esophageal orifice of the diaphragm were shown fundoplication by Nissen - Chernousov with selective proximal vagotomy and pyloroplasty by Geinik-Mikulich.

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