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*The value of radiological examination in postoperative diagnostics
of cardiospasm*

Conservative treatment of achalasia of oesophagus is usually ineffective (1, 4). Temporary improvement can be obtained with pharmacological therapy, mechanical widening, the use of a pneumatic balloon or by endoscopic administration of botuline toxin to the muscular coat at the level of oesophagogastric junction (7, 8). The only way of effective removal of clinical symptoms is surgical treatment with the Heller's method, i.e. myotomy of the inferior oesophageal sphincter (2, 5). The occurrence of gastrooesophageal reflux in about half of patients after this surgery justifies carrying out supplementary antireflux procedure.

The aim of the study is to assess the value of radiological examination in determining the efficacy of combined operative treatment of achalasia of oesophagus.

MATERIAL AND METHODS

The study comprised a group of 38 patients, 24 women (63.2%) and 14 men (36.8%) aged 18–77 years (mean – 49.1). Control examinations were done in the period from 4 to 60 months after operation (mean – 20 months). The assessment of motor function and efficiency of the cardia was performed with physical examination, radiological examination, oesophagoscopy including taking specimens for histopathologic examinations and simultaneous 24-hour pH-metry and manometry.

RESULTS

A considerable improvement in swallowing after surgery, alleviation of symptoms of painful swallowing and decrease of chest pains was reported by all the patients. Complete subsidence of swallowing difficulties, both of solid foodstuffs and fluids was noted in 30 (78.9%) patients.

An improvement of barite passage radiologically shown in 27 patients (71%) was consistent with oesophagoscopic lack of oesophageal stasis. A slight reflux of contrast medium to the gullet was found in 10 patients (26.3%) while features of gastrooesophageal reflux were endoscopically shown in 5 cases. Different degrees of stasis of contrast medium and sigmoidal course of the distal oesophageal segment were shown in 6 patients. Fundoplication cuff caused deformation of the structure of mucosa folds in the cardia region (Fig. 1A) and gastric air ampulla (Fig. 1B). In 1 case a diverticular pouch of the fundus of the stomach was formed. In considerable widening of the gullet postoperative stasis of liquid content and contrast was found (Fig. 2) while cardia was wide. Deep multilevel spasms resulted from considerable impairment of oesophageal motor function (Fig. 3). Fundoplication cuff in 2 patients caused irregular filling defects (Fig. 4). In one case fundoplication cuff comprised the stomach below the cardia while the cardia and a fragment of fundus were localised under oesophageal



Fig. 1A. Effective emptying of the gullet, fundoplication cuff causes convergent structure of mucosal folds in the cardia region



Fig. 1B. Deformation of gastric air ampulla by intussuscepting fundoplication cuff



Fig. 2. Persistent considerable widening of the gullet with stasis of liquid content



Fig. 3. Deep multilevel oesophageal spasms. Contrast stasis in the gullet.
Smooth filling defect in the region of fundus of the stomach below
the cardia caused by fundoplication cuff



Fig. 4. Effective gullet emptying. Disturbance of the mucosal folds structure in the
region of gastric stomach fundus involves part of stomach fundus. The cardia is
localised above the diaphragm

hiatus of the diaphragm. In 3 patients fundoplication cuff caused pseudo-lengthening of the cardia (Fig. 5).



Fig. 5. Normal gullet emptying with a peristaltic wave. Picture of pseudo-lengthening of the cardia caused by the cuff

DISCUSSION

The results of postoperative histopathologic examinations were contradictory to evidently improved results of other diagnostic tests. Pathologic changes persisted, especially those representing the type of chronic inflammation of multilayer pavement epithelium (70% vs 60%) and hyperplasia of pavement epithelium (20% vs 30%). In 4 (10%) patients glandular metaplasia was recognised after operation in the lower part of the gullet, out of which in one patient it was intestinal metaplasia, the so-called Barret's gullet. Only in 3 (7.5%) patients oesophageal epithelium did not show any pathologic characteristics after operation.

Case history, radiological examination and oesophagoscopy point to a considerable postoperative improvement of food content passage. This is confirmed by some parameters of manometric examination. Statistically significant decrease of resting pressure of the inferior oesophageal sphincter was found.

However, complex analysis of manometric data indicates lasting and considerable impairment of oesophageal peristalsis in patients with achalasia of the gullet.

CONCLUSIONS

Radiological examination in patients surgically treated for cardiospasm enables the assessment of the efficacy of gullet emptying, width of fundoplication cuff and efficacy of antireflux procedure. In the assessment of motor function it shows a limited value in correlation with manometric data.

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SUMMARY

The aim of the study is to assess the value of radiological examination in determining the efficacy of combined operative treatment of cardiospasm. The study group comprised 38 patients, in whom control radiological examinations were performed after surgical treatment of achalasia of oesophagus. The assessment of motor function and efficiency of the cardia was done with physical, radiological examination, oesophagoscopy including taking specimens for histopathologic examination, 24-hour pH-metry and manometry. Different radiological pictures of the gullet and cardia after cardiomyotomy surgery with subsequent antireflux procedure were presented. It was found that radiological examination in patients surgically treated for cardiospasm enabled the assessment of the efficacy of gullet emptying, width of fundoplication cuff and efficacy of antireflux procedure and that in the assessment of motor function it shows a limited value in correlation with manometric data.

Wartość badania radiologicznego w pooperacyjnej diagnostyce kurczu wpustu

Celem pracy jest ocena wartości badania radiologicznego w określeniu skuteczności skojarzonego leczenia operacyjnego kurczu wpustu. Badaniem objęto grupę 38 pacjentów, u których wykonano kontrolne badania radiologiczne po operacyjnym leczeniu kurczu wpustu. Oceny motoryki i wydolności wpustu dokonano badaniem podmiotowym, radiologicznym, ezofagoskopią z pobraniem wycinków do badania histopatologicznego i 24-godz. pH-metrii i manometrii. Przedstawiono różnorodne obrazy radiologiczne przełyku i wpustu po operacji kardiomyotomii z następowym zabiegiem antyrefluksowym. Stwierdzono, że badanie radiologiczne u chorych leczonych operacyjnie z powodu kurczu wpustu umożliwia ocenę skuteczności opróżniania przełyku, szerokości mankietu fundoplikacji i skuteczności zabiegu antyrefluksowego, a w ocenie motoryki wykazuje ograniczoną wartość w korelacji z danymi manometrycznymi.