

PERFORATION AS A COMPLICATION OF THE DIAGNOSTIC UPPER AND LOWER ENDOSCOPY OF THE GASTROINTESTINAL TRACT

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ABSTRACT:

Purpose: The purpose of this examination is to evaluate the risk of perforation during endoscopy of upper and lower gastrointestinal tract.

Patients and methods used: 1210 diagnostic gastroduodenoscopies and 412 colonoscopies of hospitalized patients were performed by two experienced endoscopists for the period March 2007 - March 2012 at MHAT - Varna, MMA. The endoscopies were performed without premedication and sedation. The patients were examined for complications of the procedure during and after the endoscopy. One of the most serious complications is the perforation of the oesophagus, stomach or the large intestine.

Results: We had no perforations caused by the examination during the 1210 upper endoscopies performed. We had 2 perforations (0,48%) from the 412 colonoscopies performed, which were treated successfully surgically.

Conclusions: The perforation is a rare but serious complication of the endoscopy of gastrointestinal tract, which can be healed completely.

Key words: gastroduodenoscopy, colonoscopy, perforation.

INTRODUCTION:

The perforation is second most common complication of diagnostic upper and lower endoscopy.(1) The predisposing factors of this complication of gastro-duodenoscopy are the corrosive esophagites as well as the presence of anterior cervical osteophytes, Zenker's and epiphrenic diverticula, strictures of oesophagus, disintegrated tumor, senile patients (> 72 years old).(2) The predisposing factors during colonoscopy are altered intestinal mucosa (chronic ulcerative - hemorrhagic colitis, disease of Crohn, diverticulosis, cancer and generalized polyposis with secondary inflammation), diverticulosis of the intestine, patients of senile age, patients with a previous abdominal surgical intervention.(3) The lack of experience of the specialist is also a risk factor.(4) The most common

localization of the perforation in lower endoscopy is sigma /80%/, followed by transversal large intestine (13%)(5), the region of pharynx and cardia in upper endoscopy. /6/ The incidents with perforations of colon in extensive studies (> 30 000 cases) vary from 0,031 %(7) to 0,090%(8), and in upper endoscopy – 0,05%.(9)

PATIENTS AND METHODS USED:

1210 diagnostic gastroduodenoscopies (725 men and 485 women) were performed by two experienced endoscopists for the period March 2007 - March 2012 at MHAT - Varna, MMA. The average age of the patients was 55 years, the minimum one - 18 years, and the maximum one was 77 years. The colonoscopies were 412 for the same period. The average age of the patients was 65 years, the minimum one - 38 years, and the maximum one was 80 years. The endoscopies were performed without premedication and sedation. The endoscopies were performed before meal, cleaning of the large intestine with 2 sachets Endofalk diluted in 2 litres water the day before colonoscopy, without enema. The patients were observed for complications of the procedure during and after the endoscopy. One of the most serious complications is the perforation of the oesophagus, stomach or the large intestine.

The following definitions of perforation were used:

a) in colonoscopy: visualization of extra intestinal structure / omentum, liver, intestines /, presence of pneumoperitoneum or retroperitoneal gas with symptoms of peritonitis after endoscopy and intraoperative finding of perforated colon.(10)

b) in oesophagoduodenoscopy: pain in the chest, pneumomediastinum with the corresponding symptoms, temperature, crepitation, pleural pain, leukocytosis, pleural effusion after upper endoscopy.(11)

RESULTS:

There were no perforations caused by the examination during the 1210 upper endoscopies performed. 25 of them were performed for diagnostics and staging of corrosive oesophagitis and gastritis. We had 2 perforations

(0,48%) from the 412 colonoscopies performed, and they were diagnosed within 3 hours after the examination. They were in the region of sigma, there was no effusion of intestinal contents in the abdominal cavity and were treated successfully surgically.

DISCUSSION:

The upper and lower gastrointestinal endoscopies are frequently performed procedures for diagnostics of patients with a wide range of problems and complaints.(12) The diagnostic is an invasive method and it bears a risk for the patient.(13) The present-day literature suggests that these examinations have mainly cardiorespiratory complications and the other complications perforation including are very rare.(14) This corresponds to the results of our study, where we have no perforation during upper endoscopy, although it was performed in 25 patients with erosive oesophagitis, which is the main predisposing factor of its occurrence.(15) We performed early endoscopy in these patients (24 - 48 hours after the burn) for evaluation of the degree of the burn and the necessary treatment – conservative or operative.

We had a rate of 0,48% perforations in colono-

scopies, which corresponds to the literary data.(17) The active follow up of the patients during and after the examination is a necessary precondition for early diagnosis and adequate therapy of this serious complication. The perforation may be diagnosed several days after the endoscopy.(18) We had diverticula in the region of sigma in both perforations, which is the major predisposing factor. /19/ The rupture of the wall can be caused by mechanical pressure on the intestinal wall or a barotrauma.(20)

Both perforations were treated surgically. The question which approach of treatment is more successful - conservative or operative, is debatable.(21) The opinion that the choice of treatment depends on the size of the lesion outweighs.(22) The surgical treatment is appropriate when the perforation occurs during diagnostic colonoscopy, because there are large ruptures of the colon in these cases. Non surgical treatment is justified after polypectomy if there is a quick clinical improvement.(23)

CONCLUSIONS:

The perforation is a rare but serious complication of the endoscopy of gastrointestinal tract, which can be healed completely when timely diagnosed.

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