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Symptomatology of hiatus hernia

In recent years reflux disease became a serious public health problem because of considerable medical care funds eaten up during its treatment and its adverse effects on the quality of life of the patients affected (4). The incidence of gastro-esophageal reflux disease (GERD) in highly industrialized countries comes up to 40% (12). Reflux disease is very frequently associated with hiatus hernia. Hiatus hernia is the condition in which the stomach passes partly through the hole in the diaphragm into the chest cavity (6, 12).

Akerlund divided hiatus hernias into three types: Type I – hernia with congenitally shortened esophagus; Type II – paraesophageal; Type III – sliding.

According to Skinner, there are four types of hiatus hernias: Type I – sliding; Type II – paraesophageal; Type III – mixed; Type IV – giant (5).

Hiatus hernia may be asymptomatic, may cause pain or intensify reflux. If it does not cause reflux, hiatus hernia, as a rule, does not require treatment. Big hernias accompanied by substantial disorders of esophageal sphincter functions may be the indication for operative treatment (6).

Increased abdominal pressure and weakening of the pericardial muscles lead to the development of hiatus hernia. The factors predisposing to its development include: pregnancy, ascites, big abdominal tumours, megacolon, constipation, obesity, injuries, muscle atrophy, particularly in the elderly, deformities of the thorax and spinal cord, scar-related shortening of the esophagus, conditions after esophageal and gastric operations. Moreover, professional predisposition should be stressed, e.g. in singers and wind instrument musicians (5, 12).

The opinions on etiopathogenesis of reflux disease have been changing with time. At present, the return to the conception that hiatus hernia significantly increases the risk of reflux disease is observed.

The aim of the study was to evaluate the nature and incidence of hiatus hernia symptoms and to differentiate them from clinical masks, e.g. cardiological ones.

MATERIAL AND METHODS

A questionnaire employed in the study consisted of 13 questions, including those concerning personal data, clinical signs, drugs used, and concomitant diseases. The study encompassed 50 patients (46% of women, 54% of men) aged: 21–40–22%, 41–60–48%, over 61–30% hospitalized in the Department of Gastroenterology of the Medical University of Lublin between October 2004 and March 2005. The questionnaire was filled by patients in the presence of one of its authors. The basis qualifying for the questionnaire included: upper alimentary tract endoscopy or Tredelenburg radiological examination after barium meal administration confirming the presence of hernia. The values of the parameters analyzed were characterized by number and percentage: the differences or correlations were detected using the chi-square test, 5% deduction error was accepted. The statistical analysis was based on the STATISTICA V.6.0 software (StatSoft, Poland).

RESULTS AND DISCUSSION

The main complaints listed by patients included: burning sensation in the stomach or lower thoracic cavity moving to the neck in 70%, nausea and close-to-vomiting sensation in 36%, pain in the middle thoracic cavity on swallowing or difficult swallowing in 30% of patients. Only 20% of patients did not report any complaints.

According to the studies by Mittal and Kassab published in Gastroenterology, Oct. 2003, reflux disease symptoms correlate with the presence of hiatus hernia in 30–60% of the population examined (8). The complaints examined in the present study occurred in 40% of patients two hours after meal, in 20% – immediately after meal; in 14% – at any time and were not related to meals, in 6% – always at similar day or night time (Fig. 1). Moreover, the study analyzed whether the occurrence or intensification of complaints is affected by the kind of meal consumed. It was demonstrated that fatty meals caused or intensified symptoms in 62% of patients, lavish meals in 70% (86.96% of women, 55.56% of men, p=0.03527) while spicy meals in 72% (Fig. 2). Out of 42% of patients using alkalizing drugs, 24% reported an improvement during 15 minutes after administration, 14% – after more than 15 minutes and 4% – no effect (Fig. 3). Furthermore, the effects of body position on the presence or intensification of symptoms were examined (13). It was demonstrated that in 56% of patients the complaints were caused or intensified by lying on a flat surface, leaning forward or bending, in 64% due to lifting or tensing.

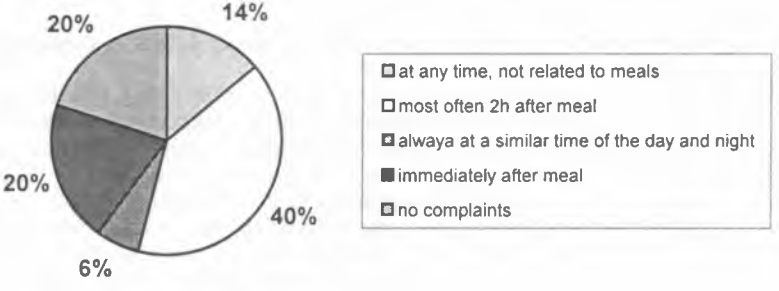

Fig.1. Time of symptom occurrence

Fig. 2. Effects of meals on intensification of symptoms

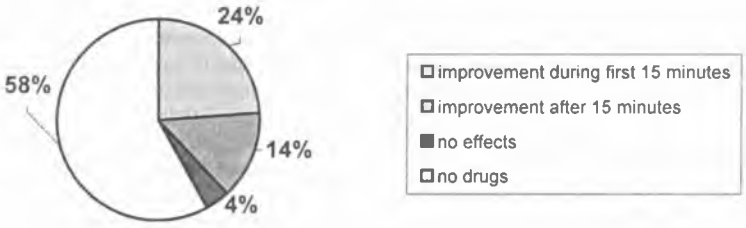

Fig. 3. Effects of drugs on subsidence of symptoms

Fifty-eight per cent of patients experience the pain in the epigastric fossa, difficult to be differentiated from ischemic heart disease. The pain correlates with the presence of heartburn in 86.21% of patients (p=0.00864), with nausea and close-to-vomiting sensation in 51.72% of the examined (p=0.01537). Esophageal etiologies of complaints are suggested by the following features: pain lasting longer than an hour, complaints occur after meals, no pain radiation is observed, pain often intensifies on leaning forward or swallowing, atypical pain-exertion relation, its nature is spontaneous, it occurs also at night, it is relieved by alkalies. The following concomitant symptoms are also of importance: heartburn, eructation, dysphagia. However, the choking-like features of pain very often make the detection of the real cause impossible and thus the patient's fears cannot be fully dispelled (1, 9, 10).

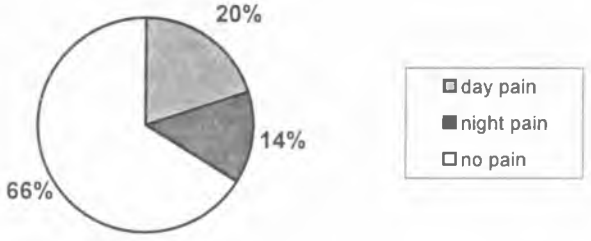

Fig. 4. Thoracic pain

The thoracic pain in patients with hernia is not as common as earlier occurring in 34% of patients, in 20% during the day and in 14% at night (Fig. 4). Combined occurrence of day thoracic pain and nausea with close-to-vomiting sensations was observed in 80% of patients while night pain was present in 42.86%, p=0.00291.

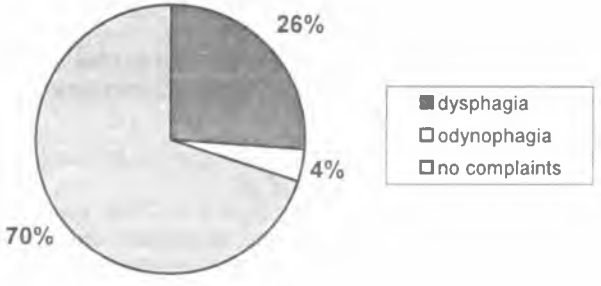

Fig. 5. Swallowing disorders

Swallowing disorders are observed in 30% of patients with hiatus hernia. According to sex, such disorders are reported by 52.2% of women while 88% of men do not complain of them. Dysphagia occurs in 26% and odynophagia in 4% of patients (Fig. 5). All the patients with odynophagia experience also nausea and close-to-vomiting sensations (p=0.03082).

Moreover, taking into account sex of patients it was observed that the frequency of heartburn in patients with hiatus hernia did not depend on sex. On the other hand, nausea, swallowing disorders, pain in the thoracic cavity and epigastric fossa are more frequent in women than in men.

Nausea with close-to-vomiting sensations occurred in 56.52% of women and 18.52% of men, p= 0.00527. Pain in the epigastric fossa was present in 86.96% of women and 33.33% of men, p=0.0004. The thoracic pain appeared during the day in 39.13% of women and 3.7% of men while 17.39% of women and 11% of men experienced it at night, p=0.00332. There are no statistically significant correlations between the frequency of symptoms and age.

Our findings are consistent with the results reported by other authors. The paper by D.E. Maziak, Todd, Person published in J. Thorac. Cardiovasc. Surg. in 1998 reports that 83% of patients of General Hospital in Toronto with detected hiatus hernia complained of reflux symptoms; postprandial pain was observed in 56%, dysphagia in 48%, nausea or vomiting in 43%, and heartburn in 31% of patients (7).

Duda, Sery, Rocek examined 359 patients hospitalized in the Surgical Department of the Palacky University in Olomouc because of gastro-esophageal reflux disease and /or hiatus hernia. In hernia patients heartburn was present in 62%, pain in the epigastric fossa in 38%, nausea with close-to-vomiting sensations in 38% of the population examined. Twelve per cent of patients did not complain of any symptoms (2).

Many authors inform about the relation between hiatus hernia and reflux disease recurrences after eradication of *H. pylori*. The studies by Inoue et al. from the Mie University School of Medicine, Tsu, Mie, Japan, demonstrate that 20.5% of 122 patients after successful eradication of *H. pylori* had recurrent reflux symptoms. Amongst 38 patients without hiatus hernia, 53% developed recurrent disease while amongst 84 patients with hiatus hernia the recurrence was observed in 27.4% of cases. It is suggested that the concomitant hiatus hernia and gastric hyperacidity are the basic factors in the development of reflux disease after *H. pylori* eradication (3).

CONCLUSIONS

1. Patients with hiatus hernia are more susceptible to reflux compared to general population, 80% of them have subjective clinical complaints.
2. The most common complaints include: heartburn in 70%, regurgitation in 60%, pain in the epigastric fossa in 58%, nausea with close-to-vomiting sensations in 36%, and swallowing disorders in 30% of cases.
3. Nocturnal symptoms (cough, asthma attacks, regurgitation) are very rare in patients with hernia – 18%.
4. Symptoms typical of gastro-esophageal reflux are heartburn and regurgitations occurring in 86.67% of patients with hernia, p=0.00459.
5. The frequency of heartburn in hiatus hernia patients does not depend on sex, while nausea, swallowing disorders, pain in the thorax and epigastric fossa are markedly more common in women than in men.

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SUMMARY

The incidence of gastro-esophageal reflux disease (GERD) in highly industrialized countries comes up to 40%. Reflux disease is very frequently associated with hiatus hernia. Hiatus hernia is the condition in which the stomach passes partly through the hole in the diaphragm into the chest cavity. The aim of the study was to evaluate the nature and incidence of hiatus hernia symptoms and to differentiate them from clinical masks. A questionnaire employed in the study consisted of 13 questions, including those concerning personal data, clinical signs, drugs used, and concomitant diseases. The study encompassed 50 patients (46% of women, 54% of men), hospitalized in the Department of Gastroenterology of the Medical University of Lublin between October 2004 and March 2005. The basis qualifying for the questionnaire included: upper alimentary tract endoscopy or Tredelenburg radiological examination after barium meal administration confirming the presence of hernia. The values of the analyzed parameters were characterized statistically and shown graphically. It was discovered that: patients with hiatus hernia are more susceptible to reflux compared to general population, 80% of them have subjective clinical complaints; the most common complaints include: heartburn in 70%, regurgitation in 60%, pain in the epigastric fossa in 58%, nausea with close-to-vomiting sensations in 36%, and swallowing disorders in 30% of cases; nocturnal symptoms (cough, asthma attacks, regurgitation) are very rare in patients with hernia – 18%; symptoms typical of gastro-esophageal reflux are heartburn and regurgitations occurring in 86.67% of patients with hernia, p=0.00459; the frequency of heartburn in hiatus hernia patients does not depend on sex, while nausea, swallowing disorders, pain in the thorax and epigastric fossa are markedly more common in women than in men.

Symptomatologia przepukliny rozworu przełykowego przepony

Częstość występowania GERD w krajach wysoko uprzemysłowionych sięga 40%. Choroba refluksowa jest bardzo często związana z przepukliną rozworu przełykowego przepony. Mianem przepukliny rozworu przełykowego określa się stan, w którym fragment żołądka przemieszcza się przez otwór w przeponie do klatki piersiowej. Celem pracy była ocena charakteru i częstości występowania objawów przepukliny rozworu przełykowego oraz różnicowanie ich z maskami klinicznymi. Posłużono się ankietą składającą się z 13 pytań, wśród nich były pytania dotyczące

danych personalnych, objawów klinicznych i leków stosowanych przez pacjentów oraz chorób współistniejących. Badaniem objęto 50 pacjentów (46% kobiet, 54% mężczyzn), hospitalizowanych w Klinice Gastroenterologii AM w Lublinie w okresie od października 2004 do marca 2005 roku. Podstawą kwalifikacji do przeprowadzenia ankiety było badanie endoskopowe górnego odcinka przewodu pokarmowego lub badanie radiologiczne w pozycji Tredelenburga po podaniu papki cieniującej, potwierdzające obecność przepukliny. Wartości analizowanych parametrów opracowano statystycznie i przedstawiono graficznie. Wykazaliśmy, że pacjenci z przepukliną rozworu przełykowego przepony są bardziej podatni na refluks w porównaniu z populacją ogólną, u 80% z nich występują subiektywne dolegliwości kliniczne; do najczęstszych należą: zgaga u 70%, regurgitacje u 60%, ból w dołku podsercowym u 58%, nudności z uczuciem gotowości do wymiotów u 36% i zaburzenie połykania u 30%; nocne objawy (kaszel, napady astmy, ulewanie na poduszkę) są bardzo rzadkie u pacjentów z przepukliną – 18%; objawy typowe dla refluksu żołądkowo-przełykowego, jak zgaga i regurgitacje, występują łącznie u 86,67% pacjentów z przepukliną, p=0,00459; częstość występowania zgagi u osób z przepukliną przełykową nie zależy od płci, natomiast nudności, zaburzenia połykania, bóle w klatce piersiowej i dołku podsercowym są zdecydowanie częstsze w populacji kobiet niż mężczyzn.