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THE FREQUENCY OF DETECTION OF GASTROESOPHAGEAL REFLUX DISEASE OF PATIENTS WITH OSTEOCHONDROSIS WHO UNDERGO TREATMENT IN CONDITIONS OF THE REHABILITATION CENTER

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The data analysis of the results of complex examination of 43 patients with osteochondrosis were presented. From in 30 (69.8 %) of patients who were identified gastroesophageal reflux disease, in 100% pathology of the thoracic spine, as well as the presence of chronic non-atrophic gastritis with a high degree of colonization of the gastric mucosa by Helicobacter pylori infection.

Key words: low back pain; *Helicobacter pylori*; lower esophageal sphincter insufficiency, gastroesophageal reflux disease.

Introduction. Gastroesophageal reflux disease (GERD) is rightly called the disease of the 21st century. The number of patients with GERD grows each year, which takes on the character of the epidemic. It is considered to be the cause of this disease is uncontrollable spinning of gastric juice into the esophagus from the so-called acid pocket, resulting damage to the esophageal mucosa [6]. However, our previous studies did not consider these acidic throws to be the main in this pathological process: according to our research the basis of this pathology are alkaline ammonium hydroxide solution throws-the product of vital activity of *Helicobacter pylori* infection [3]. However, the main problem for the solution of this problem is suspension of the main question: why does the insufficiency of the lower esophageal sphincter emerge? The search for an answer to this question have become the occasion for our research.

The purpose of the research is to identify the prevailing zone of involvement of spine by osteochondrosis and assess the condition of gastric mucosa of patients with insufficiency of the lower esophageal sphincter.

Materials and methods. It was comprehensively surveyed 43 patients with osteochondrosis (presence of osteochondrosis was confirmed by radioscopy) which were treated in terms of the rehabilitation center (Center for progressive medicine and rehabilitation “Rea + Med”, Nikolaev city) and who had complaints about the violation of the gastrointestinal tract-heartburn, feeling of heaviness in the stomach after eating, constipation or irregular frequent stools.

The age of patients ranged from 37 to 62 years (the medium age was 46.2 ± 0.19); male – 25 (58.1 %), female – 18 (41.9 %).

Complex examination of patients included: step-by-step enteric pH-metry based on V. N. Chernobrovii methodology [9]; esophagogastroduodenoscopy (EGDS) with generally accepted method [5], double HP infection testing (urease test and microscoping stained by Giemsa smears), biopsy is a multistage material for which is taken from the 4 topographical stomach zones: from the middle third of the stomach: antrum and body division of the stomach on the great and small curvature, with the developed by us technique [7], as well as histological study of the condition of the stomach lining of these same zones, according to the most recent classification [5].

Sequence of inspection: after the anamnesis first was conducted pH-metry, then-esophagogastroduodenoscopy with biopsy material for testing in HP and histological studies of the stomach mucosa. The study was conducted in the morning, fasting, in 12–14 hours after the last meal. When identifying during endoscopy incomplete closing of the lower esophageal sphincter was conducted extra multiplanar rengenoscopy and radiography of esophagus [8].

The data obtained were processed statistically using Student's *t*-test with the computation of averages (*M*) and perhaps the likelihood of deviations (*m*). The changes

were considered to be statistically significant at $P < 0.05$. Statistical calculations were performed using tables Excel for Microsoft Office.

Results and their discussion. During analysis of obtained results it was found that 30 (69.8 %) patients when performing endoscopy and additional polipositional fluoroscopy and radiography of esophagus it was found gastroesophageal reflux disease, which had 21 (48.9 %) patients, according to the most recent classification, represented non-erosive reflux disease, and 9 (20.9 %) – reflux esophagitis (Level A) [4].

When determining the level of acidity levels were identified, which correspond: hyperacidity moderate – in 2 (4.7 %), normacidity – in 8 (18.7 %), hypoacidity moderate – in 18 (41.7 %) and hypoacidity expressed – in 15 (34.9 %) cases.

When carrying out the EGDS and histological studies of the mucosa in all patients in 100 % of cases have confirmed the existence of chronic gastritis in both active and inactive form.

When testing on HP Helicobacter infection was detected in 100 % of cases. Data on the extent of the gastric mucosa semination of HP infection on topographical zones of the stomach are shown in table.

Degree of gastric mucosa semination of HP infection on topographic zones ($n = 43$)

Topographic zones of the stomach			
Antrum ($M \pm m$) / (+)		Body of stomach ($M \pm m$) / (+)	
Great curvature	Small curvature	Great curvature	Small curvature
2.13 \pm 0.11	2.12 \pm 0.11	2.11 \pm 0.11	2.10 \pm 0.11

Note: n – the number of studies.

During the analysis of obtained data on the extent of the gastric mucosa semination of HP infection, there is a lack of reliable differences ($P > 0.05$) of this indicator for topographical zones and high degree of gastric mucosa semination of HP infection in all topographical zones. When analyzing the frequency of detection of GERD relatively spine injured with osteochondrosis, it was found that all 30 (69.8 %) patients in 100 % of cases there was a pathology of the thoracic spine.

The obtained data are explicable in terms of innervation of the lower sphincter: segmental distribution of the visceral sympathetic nerve innervating the lower part of the esophagus meets Th5-6 spinal cord [10]. The presence of thoracic spine osteochondrosis violates normal innervation that leads to weakening of the lower esophageal sphincter tone. Presence in 100 % of cases of patients of chronic non – atrophic gastritis with high concentration of HP infection on gastric mucosa enhances severe intraventricular pressure due to a gas mixture that is formed as a result of vital activity of bacteria [1–3]. These two factors, from our point of view, are fundamental in the formation of GERD.

Conclusions. 1. Osteochondrosis of the thoracic spine and chronic non-atrophic gastritis are the leading factors in the formation of the GERD. 2. Osteochondrosis of the thoracic lowers the tone of the lower esophageal sphincter. 3. The presence of Helicobacter pylori infection on gastric mucosa with high degree semination raises severe intraventricular pressure.

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ЧАСТОТА ВИЯВЛЕННЯ ГАСТРОЕЗОФАГЕАЛЬНОЇ РЕФЛЮКСНОЇ ХВОРОБИ
У ХВОРИХ, ЯКИХ ЛІКУВАЛИ В УМОВАХ РЕАБІЛІТАЦІЙНОГО ЦЕНТРУ
З ПРИВОДУ ОСТЕОХОНДРОЗУ

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Узагальнені результати комплексного обстеження 43 хворих з приводу остеохондрозу. У 30 (69,8 %) пацієнтів, у яких діагностовано гастроэзофагеальну рефлюксну хворобу, виявлені патологічні зміни грудного відділу хребта, а також ознаки хронічного неатрофічного гастриту з високим ступенем обсіменіння слизової оболонки шлунка *Helicobacter pylori*.

Ключові слова: остеохондроз, гелікобактерна інфекція, недостатність нижнього стравохідного сфінктера, гастроэзофагеальна рефлюксна хвороба.

ЧАСТОТА ВЫЯВЛЕНИЯ ГАСТРОЭЗОФАГЕАЛЬНОЙ РЕФЛЮКСНОЙ БОЛЕЗНИ
У БОЛЬНЫХ, ПРОХОДИВШИХ ЛЕЧЕНИЕ В РЕАБИЛИТАЦИОННОМ ЦЕНТРЕ
ПО ПОВОДУ ОСТЕОХОНДРОЗА

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Обобщены результаты комплексного обследования 43 больных по поводу остеохондроза. У 30 (69,8 %) больных с диагностированной гастроэзофагеальной рефлюксной болезнью обнаружены патологические изменения в грудном отделе позвоночника, а также признаки хронического неатрофического гастрита с высокой степенью обсеменения слизистой оболочки желудка *Helicobacter pylori*.

Ключевые слова: остеохондроз, геликобактерная инфекция, недостаточность нижнего пищеводного сфинктера, гастроэзофагеальная рефлюксная болезнь.