

FREQUENCY OF IMPLEMENTATION AND IMPACT OF APPENDECTOMY AT ACTIVATION OF THE PATHOLOGICAL PROCESS IN PATIENTS WITH CHRONIC NON-ATROPHIC GASTRITIS

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ABSTRACT

The aim: Determine the frequency of surgery-appendectomy of patients with chronic non-atrophic gastritis and the impact of this transaction on the pathogenesis of chronic gastritis.

Materials and methods: Data of disease history and life were analyses, as well as the results of a comprehensive survey of 245 patients with chronic non-atrophic gastritis. Comprehensive examination included: step-by-step pH-metry, esophagogastroduodenoscopy, helicobacter infection test (HP) (helicobacter urease test and microscopic examination of stained smears), histological investigations of the gastric stump mucous.

Results: Helicobacter infection was detected in 100% of cases. It was found that 56 (22.9%) of patients were subjected to appendectomy. Age of patients, who had an appendectomy ranged from 4 to 40 years and averaged 18.34 ± 1.05 years, and the first pathological manifestations of the gastro-intestinal tract appeared in an average of 28.27 ± 1.75 year, i.e. in 10 years. As for the age qualification pupil were the earliest pathological manifestations appeared in a group of patients from 11 to 15 years (13 people (23.2%) and amounted to about 6 years after the operation, and 6 (46.2%) patients, manifestations appeared in 2-6 months after surgery; the most recent is in group from 16 to 20 years (19 people (33.9%) and amounted to about 14 years ($p < 0.05$)).

Conclusions: Surgery on the body of immune system – appendix provokes activation of latent form of chronic non-atrophic gastritis, especially during puberty.

KEY WORDS: chronic non-atrophic gastritis, the immune system of the human body, appendectomy

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INTRODUCTION

The condition of immune system is the key to curbing the development of pathological processes in the human body, so any intervention in its function is fraught with the development of different diseases. Appendicular process is part of the immune system, since it, like in the tonsils, formation of B-lymphocytes, which are the basis of humoral immunity [1, 2, 3, 4, 5, 6, 7, 8, 9]. Appendectomy remains the most common surgery: a year in the US, up to 250.000 appendectomies [10, 11, 12]. In the available for us literature there was no information on how appendectomy effects on the activation and development of chronic non-atrophic gastritis, which was the reason for our research.

THE AIM

Determine the frequency of surgery-appendectomy of patients with chronic non-atrophic gastritis and the impact of this transaction on the pathogenesis of chronic gastritis.

MATERIALS AND METHODS

On the basis of the clinical division of the problem lab on chronic Helicobacter pylori infection of the Petro Mohyla Black Sea National University data of disease history and life

were analyses, as well as the results of a comprehensive survey of 245 patients with chronic non-atrophic gastritis. The age of patients ranged from 25 to 61 years (the medium age was 38.3 ± 1.45); males (80.4%) were 197, female – 48 (19.6%).

Primary comprehensive survey included: step-by-step intragastric pH-Metry based on methodology by Chernobrovii V.N esophagogastroduodenoscopy(EGDS) by generally accepted method, double HP testing: test for ureaz activity and microscoping stained by Giemsa smears, material for which was taken during endoscopy from 4 topographical zones: from the middle third of the gastric antrum and body of stomach on the big and small curvature with our created methodology and also histological studies of the gastric mucosa, the material for which is taken from the same zone, using a generally accepted method taking into account recent classification [13].

The study was conducted in accordance with the basic bioethical provisions of the Helsinki Declaration of the World Medical Association on the ethical principles of scientific 549 medical research involving human (1964-2008) and the order of the Ministry of Health of Ukraine No. 690 dated September 23, 2009, which was confirmed by the findings of the meeting of the Ethical Commission of Petro Mohyla Black Sea National University, Nikolaiev No. 5 dated May 15, 2019.

Table I. Level of acidity of the patients with chronic non-atrophic gastritis

The level of acidity	The number of surveyed patients with chronic non-atrophic gastritis (n = 245)	
	Number of patients	%
Hyperacidity expressed	24	9,8
Hyperacidity moderate	35	14,3
Normacidity	108	44,1
Hypoacidity moderate	47	19,2
Hypoacidity expressed	31	12,6
Anacidity	0	0

Note: n-the number of studies

Table II. Degree of semination of gastric mucosa with HP infection on topographical zones of patients with chronic non-atrophic gastritis

Topographic zones of stomach	Degree of semination of gastric mucosa with HP infection on topographical zones of stomach (+) / (M ± m) (n = 245)
Antrum of the stomach	a) 2,25 ± 0,20; 6) 2,18 ± 0,20.
Body of stomach	a) 2,15 ± 0,20; 6) 2,13 ± 0,20.

Note: n-the number of studies, a) large curvature, b) small curvature

Table III. Age of patients during appendectomy and beginning of the first pathological manifestations after surgery (n = 56)

Age qualification in the operation period	Number	%	M ± m (year)	First pathological manifestations M ± m (year)
Before 10 years	7	12,5	6,57 ± 0,83	17,29 ± 2,49
From 11 to 15 years	13	23,2	13,38 ± 0,31	19,77 ± 2,91
From 16 to 20 years	19	33,9	18,21 ± 0,25	32,58 ± 1,80
From 21 to 25 years	7	12,5	22,85 ± 0,49	30,57 ± 2,94
Older then 25 years	10	17,9	30,10 ± 1,34	37,20 ± 4,21

Note: n-the number of studies

Primary sequence survey: first patients conducted pH-metry and then EGDS with biopsy material for testing in HP and histological studies of the stomach mucosa. The study was conducted in the morning on an empty stomach, in 12-14 hours after the last meal. The data obtained were processed statistically using Student 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 Excel tables for Microsoft Office.

RESULTS AND DISCUSSION

Data obtained during the conduct of pH-testing are shown in table I.

When carrying out the EGDS active ulcerous process in the duodenal ulcer was diagnosed at 11 (4.5%), and 23 (9.4%) patients had manifestations of carried in the past ulcers duodenal bulb as scar deformity of varying degrees of severity. When analyzing data of histological investigations of all patients in 100% of cases, have confirmed the existence of chronic non-atrophic gastritis in both active and inactive stages of varying degrees of severity.

When testing on HP Helicobacter infection was detected in 100% of cases when the degree for semination from (+) to (+++). Data on the extent of the gastric mucosa for semination of HP infection on topographical zones of the stomach patients with chronic non-atrophic gastritis are reflected in table II.

During comparative analysis of data on the medium level semination with HP infection of gastric mucosa on topographical zones reliable differences weren't found ($p > 0.05$).

When analyzing data by frequency of held appendectomies it was found that 56 (22.9%) patients had such an operation. Data on the age of patients during appendectomy and age, when we started the first pathological manifestations of the gastro-intestinal tract after operation, are presented in table III.

Age of patients, who had an appendectomy ranged from 4 to 40 years and averaged 18.34 ± 1.05 years, and the first pathological manifestations of the gastro-intestinal tract appeared in an average of 28.27 ± 1.75 year, i.e. in 10 years. As for the age qualification pupil were the earliest pathological manifestations appeared in a group of patients from 11 to 15 years and amounted to about 6 years after the operation, and 6 (46.2%) patients, manifestations appeared in 2-6 months after surgery; the most recent is in group from 16 to

20 years and amounted to about 14 years ($p < 0.05$). The first manifestations in the form of proved chronic gastritis was 42 (75%), duodenal ulcer-7 (12.5%), acute pancreatitis-4 (7.2%) chronic colitis-2 (3.6%), cholelithiasis-1 (1.7%) patient.

These results are understandable from the point of view of age qualification of having appendectomy. The period from 11 to 15 years is the period of puberty, when hormonal changes are destabilizing the immune system [3, 14, 15]. Operative intervention during this period on the body of immune system strengthen this process that leads to activation of *Helicobacter pylori* infection, because of the two constraints-immunity and acid-peptic factor the first crashes that allows HP infection use more their energy for reproduction. The increase in mass of HP infection activates the inflammatory process in the stomach lining which leads to a primary manifestation of chronic non-atrophic gastritis, which up to this point could be latent [16].

CONCLUSIONS

Surgery on the body of immune system – appendix provokes activation of latent form of chronic non-atrophic gastritis, especially during puberty.

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Conflict of interest:

The Author declare no conflict of interest.

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