CLINICAL AND ENDOSCOPIC-MORPHOLOGICAL FEATURES OF HELICOBACTER PYLORI-ASSOCIATED CHRONIC GASTRITIS IN YOUNG ADULTS.

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Abstract: Helicobacter pylori-associated chronic gastritis remains one of the most common diseases of the digestive system and is the principal precursor of peptic ulcer disease and gastric cancer. We examined 96 patients aged 18-35 years with H. pylori-associated chronic gastritis and 30 healthy volunteers. The leading complaints were epigastric pain (85.4%) and dyspepsia (63.5%). Endoscopically, antral erythematous gastropathy predominated (60.4%), while erosions were detected in 21.9% of patients. Histological examination showed moderate or severe mononuclear infiltration in 65.6% and neutrophil activity in 74.0% of cases. The serum pepsinogen I/II ratio was 34.6% lower than in controls. Infection with CagA-positive strains was associated with a threefold higher frequency of erosive changes, which justifies early diagnosis and eradication therapy in young patients.

Key terms: chronic gastritis, Helicobacter pylori, young adults, endoscopy, histology, pepsinogen, CagA.

Relevance: Helicobacter pylori infection affects about half of the world's population, and its prevalence in developing countries remains considerably higher than in industrialized regions (5,7). Colonization of the gastric mucosa usually occurs in childhood and, if not eradicated, leads to chronic active gastritis in virtually all infected persons (1,3). The long-term course of the infection determines the risk of atrophy, intestinal metaplasia and gastric adenocarcinoma, as described in the cascade proposed by Correa (2,9).

Modern consensus documents recommend that H. pylori gastritis be regarded as an infectious disease irrespective of symptoms (6,11). Standardized endoscopic and histological evaluation, in particular the updated Sydney system and the OLGA staging, makes it possible to assess the topography and severity of inflammation (4,9,10). Nevertheless, data on the clinical presentation and mucosal changes in young adults, in whom the disease is often diagnosed late, are insufficient, and the contribution of virulent bacterial strains to the severity of lesions in this age group is not fully clarified (1,8).

Purpose of the study. To determine the clinical, endoscopic and morphological features of H. pylori-associated chronic gastritis in young adults.

Objective of the study. To evaluate the clinical manifestations, endoscopic picture, histological changes and serum pepsinogen levels in patients aged 18-35 years with H. pylori-associated chronic gastritis, and to assess the relationship between CagA status and the severity of mucosal lesions.

Material and methods of research. We examined 96 patients (54 women and 42 men, mean age 27.3±0.6 years) with H. pylori-associated chronic gastritis and 30 healthy volunteers of comparable age (control group). H. pylori infection was confirmed by the rapid urease test and the 13C-urea breath test. All patients underwent esophagogastroduodenoscopy with antral and corpus biopsies; the

specimens were stained with hematoxylin-eosin and evaluated according to the updated Sydney system. Serum pepsinogen I and II levels and anti-CagA IgG antibodies were determined by enzyme immunoassay. Patients who had taken antibiotics, proton pump inhibitors or bismuth preparations within the previous 4 weeks were excluded. Data were processed by variance statistics; differences were considered significant at $p<0.05$.

The results of the study and their discussion. Epigastric pain was the leading complaint and was noted in 82 patients (85.4%); it was related to food intake in 59 of them. Dyspeptic complaints in the form of early satiety and epigastric fullness were registered in 61 patients (63.5%), nausea in 48 (50.0%) and heartburn in 37 (38.5%). Alarm symptoms were absent in all examined patients. Endoscopy revealed antral erythematous gastropathy in 58 patients (60.4%), erosions in 21 (21.9%), mucosal nodularity of the antrum in 17 (17.7%) and signs of mucosal atrophy in 9 (9.4%). Nodularity was found significantly more often in women than in men.

Histological examination confirmed chronic inflammation in all patients. Moderate or severe mononuclear infiltration of the lamina propria was found in 63 patients (65.6%), and neutrophil activity in 71 (74.0%). Lymphoid follicles were most numerous in the antrum, where H. pylori colonization was also the densest. Glandular atrophy of mild degree was observed in 9 patients (9.4%), and foci of intestinal metaplasia in 6 (6.3%); all of them were older than 30 years. The serum pepsinogen I/II ratio in patients was 5.1 ± 0.3, compared with 7.8 ± 0.4 in the control group, which is 34.6% lower ($p<0.05$) and reflects the predominant inflammation of the corpus mucosa in addition to antral involvement.

Anti-CagA antibodies were detected in 54 patients (56.3%). In the CagA-positive group erosions were found in 17 of 54 patients (31.5%), whereas in the CagA-negative group they were found in only 4 of 42 (9.5%), i.e. 3.3 times less often. Neutrophil activity was also more pronounced in CagA-positive patients, and

the pepsinogen I/II ratio in this subgroup (4.7±0.3) was lower than in CagA-negative patients (5.6±0.4). The findings are consistent with data on the role of virulence factors of the bacterium in the intensity of the inflammatory response (1,8,11). Thus, even in young patients with minimal clinical manifestations, the mucosa may already show erosive and early atrophic changes.

Conclusions. H. pylori-associated chronic gastritis in young adults is characterized mainly by epigastric pain and dyspeptic complaints in the absence of alarm symptoms. Endoscopically, antral erythematous gastropathy predominates (60.4%), and erosions and nodularity are detected in about one fifth of patients. Histologically, active chronic inflammation with moderate or severe mononuclear infiltration is observed in two thirds of cases, and initial atrophic changes and intestinal metaplasia are already found in a minority of patients.

A reduction of the pepsinogen I/II ratio by one third relative to healthy persons indicates involvement of the gastric corpus. Infection with CagA-positive strains is associated with a significantly higher frequency of erosive lesions and more active inflammation. Considering these findings, patients with confirmed H. pylori infection should be offered eradication therapy irrespective of symptom severity, and endoscopic and histological follow-up is advisable for CagA-positive patients.

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