MORPHOLOGICAL CHANGES OF THE GASTRIC MUCOSA IN HELICOBACTER ASSOCIATED GASTRODUODENITIS

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ABSTRACT
Using histological and histobacterioscopic methods, 178 biopsy samples of the mucous membrane of the antrum and fundus of the stomach were obtained from 100 patients with chronic gastroduodenitis associated with pyloric helicobacter. It was established that different life forms of pyloric helicobacter cause one type of chronic helicobacter gastritis, but different activity of the pathological process. A histobacterioscopic study of CO biopsy samples from different parts of the stomach in patients with chronic gastritis revealed a predominance of HP contamination in the form of associations of 3 forms of HP (convoluted, rod-shaped, coccoid) in 45.5% of cases. The degree of severity of chronic antral gastritis B and chronic fundal gastritis B was maximum with triple contamination of the stomach stomach HP and minimal with its seeding by individual life forms of HP, mainly cocciform.

KEY WORDS: H.pylori, diagnostics, morphology, prevalence, gastric mucosa.

INTRODUCTION
Helicobacter pylori (H. pylori) is a microaerophilic spiral gram-negative bacterium that colonizes the mucous membrane of the human stomach. Due to its structure and the production of certain enzymes, the bacterium is able to overcome the host’s protective barriers, survive in an acidic environment and colonize the gastric mucosa [1].

Infection occurs mainly through the oral fecal route, in particular through contaminated water and food. Oral transmission is also possible, as evidenced by the release of bacteria from saliva and plaque [2]. According to modern concepts, H. pylori causes chronic active gastritis in all infected individuals. This can lead to peptic ulcer, atrophic gastritis, gastric adenocarcinoma, or MALT lymphoma of the stomach [4,5]. Elimination of H. pylori leads to the cure of gastritis, which is the basis for the prevention of long-term complications or relapses of the disease. For these reasons, H. pylori- associated diseases are considered infectious, regardless of symptoms and stage [3,6].

The prevalence of infection varies by geographic area, age, ethnicity and socioeconomic status. A meta-analysis published in 2017 suggests that H. pylori prevalence remains high in most developing countries (70–90%), as well as in individual indigenous populations of developed countries, and is usually associated with socio-economic status and hygiene. Moreover, there is a decrease in the prevalence of H. pylori in developed countries (25% –50%), which is explained by an increase in living standards and improved hygiene [7, 8, 9].

A significant decrease in the incidence of gastric cancer and peptic ulcer in Western Europe, the USA, and Japan is associated with a decrease in the prevalence of H. pylori [10, 11].

Methods for detecting bacteria include direct histological imaging, detection of bacteria by urease activity, metabolic products of urea degradation, detection of antigens, polymerase chain reaction (PCR) and antibodies as a result of a systemic immune response [12, 14].

Currently, there are both invasive and non-invasive methods for diagnosing H. pylori infection. Invasive methods, such as histology, an urease rapid test, microbiological cultivation and polymerase chain reaction, require esophagogastroduodenoscopy (EGD) and the study of biopsy specimens [13].
The histological method was the first method that was used to detect H. pylori in biopsy specimens of the gastric mucosa (coolant). The histological method allows you to directly visualize H. pylori and can be recommended for initial diagnosis in patients who are shown endoscopy [15, 16]. A histological examination allows not only to identify H. pylori, but also to quantify the degree of bacterial contamination, to assess the nature and activity of inflammation of the gastric mucosa, to identify the presence of other pathological processes (the severity of atrophy, intestinal metaplasia or precancerous changes) [17].

The purpose of this study is to study on the material of gastrobiopiates the morphological changes in the gastric mucosa of the antrum and fundus of the stomach during its contamination with different life forms of HP.

RESULTS AND ITS DISCUSSION

When studying 178 gastrobiopsy samples of mucosa from different parts of the stomach from 100 patients, different life forms of HP were revealed - convoluted, rod-shaped and coccoid.

Of the 5 biopsy samples of mucosa of the fundus of the stomach contaminated with predominantly convoluted forms of HP, where chronic fundal gastritis B was histologically revealed, in 3 out of 5 patients minimal inflammatory activity was diagnosed, and only 2 patients had chronic fundal gastritis B characterized by moderate pathological activity process. The result obtained is most likely associated with histobacterioscopic features of the sample of biopsy material, as well as the small size of the gastrobiopsy specimens, the mucosa of which does not always fully reflect the true histological picture of its lesion by the mentioned forms of helicobacter.

In 10 biopsy samples of mucosa of the fundus of the stomach contaminated mainly by rod-shaped forms of HP in 1 patient, chronic fundal gastritis B with marked pathological process activity was verified, in 4 cases chronic fundal gastritis B with moderate inflammatory process activity and in 5 cases chronic fundal gastritis B with minimal inflammatory activity.

In 6 biopsy samples of mucosa of the fundus of the stomach, which was mainly contaminated with cocciform forms of HP, histologically also found chronic fundal gastritis B - in 1 patient with moderate activity of the pathological process, and in 5 cases with minimal activity.

In the study of 13 gastrobiopsy samples of mucosa of the fundamental part of the stomach, in which mucosa was simultaneously contaminated with different life forms of HP (crimped, rod-shaped and cocciform), chronic fundal gastritis B was revealed histologically in 6 patients with moderate activity of the pathological process, while with minimal activity of the inflammatory process in 7 cases.

It is known according to the literature [4] that with HP infection, the most frequently involved in the inflammatory process is the mucosa of the antrum, which is confirmed by more pronounced histological changes in this section of the stomach. So, with a histological analysis of 20 biopsy samples of the mucosa of the antrum and its contamination with predominantly convoluted forms of HP, chronic antral gastritis B was detected with moderate activity of the pathological process.

In the study of 32 biopsy specimens in which the antrum of the stomach was contaminated mainly by rod-shaped forms of HP, chronic antral gastritis B was revealed histologically in it. In 9.4% of cases, it had a pronounced pathological process activity, in 75% - moderate, while in 15 , 6% - its minimum activity.

Analysis of 15 biopsy specimens of the antrum of the stomach, which was mainly contaminated with coccid forms of HP, histologically diagnosed chronic antral gastritis B, which in 26.6% (4) cases was with pronounced inflammatory activity, in 60.0% (9) with its...
CONCLUSIONS

1. The study of gastrobiopsy specimens of the mucous membrane of the antrum and fundus of the stomach using histological, histobacterioscopic, and urease express methods in 100 of the observed patients revealed 100% of cases of chronic fundal gastritis B and chronic antrum gastritis B in these departments. 5%.

2. A histobacterioscopic study of CO biopsy samples from different parts of the stomach in patients with chronic gastritis revealed a predominance of HP contamination in the form of associations of 3 forms of HP (convoluted, rod-shaped, coccoid) in 45.5% of cases. The percentage of detection of monoform in biopsy specimens varied: convoluted forms were detected in 3.6%, rod-shaped forms in 12.0%, coccoid forms in 22% of cases.

3. The degree of severity of chronic antral gastritis B and chronic fundal gastritis B was maximum with triple contamination of the stomach stomach HP and minimal with its seeding by individual life forms of HP, mainly cocciform.

REFERENCES


