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STUDY OF ACID-PRODUCING FUNCTION OF THE STOMACH IN PATIENTS WITH PEPTIC ULCER OF THE DUODENUM

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ABSTRACT

We examined 30 children with gastrointestinal pathology aged 7-15 years. The examined patients were divided into two main groups: group 1 included 12 patients with duodenal ulcer during an exacerbation, group 2 included 8 patients with duodenal ulcer without exacerbation and in the control group there were 10 children hospitalized with functional dyspepsia. An increase in acid-forming function was observed in two main groups, while it was significantly higher in the group of children with duodenal ulcer during an exacerbation.

KEY WORDS: *duodenal ulcer, Helicobacter pylori, patients, acid-forming function of the stomach.*

INTRODUCTION

Despite the successes achieved in the study of the pathology of the digestive organs in children's practice, interest in it does not fade, due to the high prevalence, frequent complications and early disability, leading to a decrease in the quality of life of children [4,14,18]. According to the materials of foreign and domestic statistical studies, peptic ulcer in children accounts for duodenal ulcer (duodenal ulcer) in 81% of all cases of the disease, gastric ulcer (ULCER) is observed in 13% of cases, and combined localization in 6% of cases [2,13,17].

It is known that the development of stomach diseases of the stomach and duodenum in 40-60% of adults begins in childhood. The peak incidence occurs at 10-13 years of age, boys and girls get sick with approximately the same frequency, and after 10 years of age boys get sick much more often. This fact is probably explained by the anti-carcinogenic effect of estrogens [8,16].

In childhood, the pathology of the gastroduodenal zone has its own peculiarities of course, the disease is asymptomatic for a long time, this is often due to the fact that children usually do not pay attention to their health, and therefore complications often turn out to be the first clinical manifestation of the disease [11]. Violent acute attacks, rapid course and progression end in severe traumatic operations [1,5,7,9,11].

The role of hereditary burden is one of the main risk factors for the occurrence of duodenal ulcer; the disease is transmitted in an autosomal dominant or autosomal recessive manner, not linked to sex [3,6,10,15].

In recent years there is no doubt about the etiological and pathogenetic role of Helicobacter pylori in the development of the ulcerative process, which contributed to the introduction of eradication therapy regimens and the widespread use of modern antisecretory drugs. Despite this, it has not yet been possible to resolve the issue of a complete cure of the ulcerative process.

Most relapses and complications leading to chronization require careful study of the role of pepsin in various parts of the gastric tract and periods of acid formation, as this determines an individual approach to the treatment of such patients. The frequent use of nonsteroidal anti-inflammatory drugs prescribed by doctors for the treatment of various diseases is the most common cause of ulceration [12].

In connection with the above, we decided to determine the features of the acid-forming functions of the stomach in children with gastrointestinal pathology.

THE PURPOSE OF THE STUDY

To study the features of the acid-forming function of the stomach in patients with duodenal ulcers using intragastric pH-metry of the stomach.

MATERIALS AND METHODS OF RESEARCH

Under our supervision, there were 30 children suffering from gastrointestinal tract pathology aged 7-15 years in 2 clinics of SamSMU. The diagnosis was made according to the Roman Criteria III. After analyzing the clinical data, the children were divided into two main groups:

Group 1 included 12 patients with duodenal ulcer during the exacerbation period, group 2 included 8 children with duodenal ulcer outside the exacerbation and the control group included 10 children hospitalized with functional dyspepsia, in whom organic pathology of the gastroduodenal zone was excluded.

In addition to routine examination methods, fibroesophagogastroduodenoscopy was determined in all children before treatment and after a course of eradication therapy. Diagnosis of Helicobacter pylori was determined in blood serum using the IgG test for Helicobacter pylori.

The acid-forming function was studied by intragastric pH-metry, probes using the Gastroscan-AGM apparatus. At the same time, the average pH level in different parts of the

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stomach was evaluated, and the effectiveness of the acid-inhibiting effect of therapeutic drugs was determined, which is important in developing an optimal treatment course [3,4].

THE RESULTS AND THEIR DISCUSSIONS

Burdened heredity both in acid-dependent diseases and in the general morbidity of the digestive system was found with the same frequency in children of 1-2 groups, in the control group - hereditary gastrointestinal burden was more common on the maternal side. When distributed by gender, there were 7 (39%) boys and 5 (41.6%) girls in the 1st group, 6 (33.3%) and 4 (33.4%) in the 2nd comparison group, respectively, and 5 in the control group (27.7%) boys and 3 (25%) girls. The average age of the surveyed was 12.5±3.8 years. It should be noted that the age-related shift in children with with duodenal ulcer was noted towards the older age of 12-15 years and more often in boys.

According to the results of the severity of clinical symptoms, differences in pain and dyspeptic syndromes were not revealed in children with duodenal ulcer during and after exacerbation, 15.0 and 65.0% of cases, respectively, and in children of the second group - 11.8 and 41.2% of cases, unlike the control group, where the brightness of symptoms was less pronounced.

The results of fibrogastroduodenoscopy showed that the mucous membrane of the stomach and duodenum in the examined patients differed significantly, since visualization of the duodenum during fibrogastroduodenoscopy revealed significant changes in the 1st group of children in the form of erasive and ulcerative bulbitis in 83.3% of cases and in the 2nd group in 75%, in children of the control group no organic pathology of the gastroduodenal zone was revealed. According to our data, the average size of the ulcerative defect was 4.2±0.22 mm (from 1 to 1.5 mm), while single ulcers occurred on average in 80% of cases, and multiple ulcers in 35%. The duration of the ulcerative anamnesis was 2 times less in group 2, which indirectly indicates a more aggressive course in the first group.

Helicobacter pylori was detected in 85% of patients in groups 1 and 2 and 20% in the control group. The secretory function of the stomach was impaired in 85% of patients with It should be noted that the age-related shift in children with with duodenal ulcer was noted towards the older age of 12-15 years and more often in boys and 30% in patients of the control group.

An increase in acid-forming function was observed in two main groups, while it was significantly higher in the group of children with duodenal ulcer during the exacerbation period in 75% of cases. Clinical manifestations of hyperacidity were noted in children with duodenal ulcer during the exacerbation period (heartburn 25%, acid belching was in 41.6%, burning in the throat and chest was felt by 33.4% of children, in 25% of children with duodenal ulcer outside the exacerbation, these symptoms were less pronounced. However, in children with functional dyspepsia, this symptom was noted similarly to group 1, but less pronounced (heartburn 10%, acid belching was in 20%). When studying gastric acid, it was revealed that the level of gastric acidification in all patients had their own individual characteristics, which were to some extent related to circadian rhythms and eating habits. The secretion of gastric contents in patients with duodenal ulcer during the exacerbation period, compared with patients outside the exacerbation, was at a lower pH level from 0.9 to 1.6.

CONCLUSIONS

Thus, the results of the studies indicate that patients with gastrointestinal pathology, regardless of the clinical variant of the disease, are characterized by a violation of the acid-forming function of the stomach, the cause of which is such features as a family history of peptic ulcer of the stomach and duodenum and carriage of Helicobacter pylori, long-term asymptomatic course, feeding habits of children, individual biorhythms.

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