eradication therapy consisted of 10-days twice daily oral administration of PPIs in standard dose, amoxicillin 1000 mg, clarithromycin 500 mg, then 20-days twice daily PPIs. Therapeutic success was confirmed by a negative histological examination and Breath HELIK-Test, performed 4-12 weeks after treatment.

**FINDINGS.** Before the treatment 82% of patients had pain syndrome and 70% - dyspeptic complaints. During the treatment in 50% of patients increased the frequency of dyspeptic complaints and in 42% of them such complaints appeared for the first time and continued during 1,5 months after treatment. The eradication rate was 70%. Healing of duodenal ulcer was noted in 82% cases. The level of basal pH was significantly (p <0,001) increased in the corpus of stomach from 1,39  $\pm$  0,41 to 1,83  $\pm$  0,31, in antrum 1,97  $\pm$  0,29 to 2,52  $\pm$  0.34 and in the duodenum from 4,09  $\pm$  0,59 to 5,14  $\pm$  0,95. After treatment significantly increased the levels of alanine transaminase from 36,78  $\pm$  0,78 to 42,52  $\pm$  1,22 IU/L , asparagines transaminase from 36,36  $\pm$  0,79 to 40, 76  $\pm$  1,27 IU/L, alkaline phosphatase from 96,90  $\pm$  1,37 to 101,24  $\pm$  2,17 IU/L, and triglycerides from 1,57  $\pm$  0,07 to 1,72  $\pm$  0.10 mmol/l, which must be noted as drugrelated side effects of clarithromycin-based triple therapy. Increase of the levels of bilirubin from 19,41  $\pm$  0,24 to 20,88  $\pm$  0,34 mmol/l and cholesterol from 5,17  $\pm$  0,16 to 5,56  $\pm$  0,19 mmol/l were not statistically significant.

**CONCLUSIONS.** Standard triple Hp eradication therapy based on clarithromycin has low efficacy (70%), causes or increases the frequency of dyspeptic complaints associated with the use of antibiotics, has a hepatotoxic effect.

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# ABILITIES OF NONPHARMACOLOGIC REMEDIES IN THE TREATMENT OF HELICOBACTER PYLORI-ASSOCIATED DUODENAL ULCER PATIENTS

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**PURPOSE:** To investigate the effect of probiotics and mineral water in the treatment of patients with Helicobacter pylori (Hp) -positive duodenal ulcer.

**MATERIAL AND METHODS.** In this study 200 Hp-positive patients with duodenal ulcer were randomized into 4 groups, 50 patients in each. Hp infection was confirmed by a histological examination of samples obtained from the antrum and corpus of stomach during endoscopy and non-invasive Breath HELIK-Test. Intragastric and intraduodenal pH-metry, blood analyses also were performed. The following eradication regimens were recommended: Group I: 10-days twice daily oral administration of proton pump inhibitors (PPIs) in standard dose, amoxicillin 1000 mg, clarithromycin 500 mg, then 20-days twice daily PPIs plus once daily oral administration of probiotics, containing Lactobacillus bulgaricus DDS-14, Lactobacillus rhannosus, Lactobacillus acidophilus DDS-1 and Bifidobacterium bifidum during one month; Group II: PPIs and probiotics once daily and alkaline hydrocarbonate-chloride sodium mineral water Essentuki-4 200 ml trice daily during one month; Group III: PPIs and probiotics once daily during one month; Group III: PPIs once daily during one month; Group III: PPIs once daily during one month. Therapeutic success was confirmed by a negative histological examination and Breath HELIK-Test, performed in 4-12 weeks after therapy.

**FINDINGS.** In Group I dyspeptic complaints disappeared in 74%, and decreased in 20%. Disappearance of dyspeptic complaints was 78%, 76% and 74% in II, III and IV groups respectively. Decrease of dyspeptic complaints was 20%, 22% and 24% in II, III and IV groups respectively. The eradication rates were 82%, 80%, 78% and 68% in I, II, III and IV groups, respectively. Healing of duodenal ulcer was noted in 84%, 86%, 84% and 78% of cases, in I, II,

III and IV groups, respectively. Intragastric and intraduodenal pH was significantly increased in all groups, especially in II. After treatment in II, III and IV groups significantly decreased alanine transaminase, asparagines transaminase, blood bilirubin, alkaline phosphatase, cholesterol and triglycerides.

**CONCLUSIONS.** Adding probiotics to standard triple therapy improves efficacy of eradication. The combined use of PPIs, probiotics and alkaline hydrocarbonate-chloride sodium mineral water is a highly-effective alternative therapy in patients with Hp-associated duodenal ulcer.

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## ELABORATION OF OPTIMAL HELICOBACTER PYLORI ERADICATION REGIMENS FOR PATIENTS WITH DUODENAL ULCER

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**PURPOSE:** To investigate the efficacy of proton pump inhibitors (PPIs), probiotics and different mineral water in patients with Helicobacter pylori (Hp)-positive duodenal ulcer and to elaborate the optimal Hp eradication regimens in such patients.

**MATERIAL AND METHODS.** In this study 250 Hp-positive patients with duodenal ulcer were randomized into 5 groups, 50 patients in each. Hp infection was confirmed by a histological examination of samples obtained from the antrum and corpus of stomach during endoscopy and non-invasive Breath HELIK-Test. Intragastric and intraduodenal pH-metry, blood analyses also were performed. The following eradication regimens were recommended: Group I: 10-days twice daily oral administration of PPIs in standard dose, amoxicillin 1000 mg, clarithromycin 500 mg, then 20-days twice daily PPIs; Group II: the same treatment plus once daily oral administration of probiotics, containing Lactobacillus bulgaricus DDS-14, Lactobacillus rhannosus, Lactobacillus acidophilus DDS-1 and Bifidobacterium bifidum during one month; Group III: PPIs and probiotics once daily and alkaline hydrocarbonate-chloride sodium mineral water Essentuki-4 200 ml trice daily during one month; Group IV: PPIs and probiotics once daily and chloride sodium mineral water Minsk-4 200 ml trice daily during one month; Group V: probiotics and PPIs once daily during one month. Therapeutic success was confirmed by a negative histological examination and Breath HELIK-Test, performed in 4-12 weeks after therapy.

**FINDINGS.** 82% of patients had pain syndrome and 70% - dyspeptic complaints. In 50% of patients of group I increased the frequency of dyspeptic complaints and in 42% of them such complaints appeared for the first time. In Group II dyspeptic complaints disappeared in 74%, and decreased in 20%. Disappearance of dyspeptic complaints was 78%, 76%, 74% in III, IV and V groups respectively. Decrease of dyspeptic complaints was 20%, 22%, 24% in III, IV and V groups respectively. The eradication rate of Helicobacter pylori were 70%, 82%, 80%, 78% and 68% in I, II, III, IV and V groups, respectively. Healing of duodenal ulcer was noted in 82%, 84%, 86%, 84% and 78% of cases, in I, II, III, IV and V groups, respectively. Intragastric and intraduodenal pH was significantly increased in all groups, especially in III. After treatment in group I significantly increased alanine transaminase, asparagines transaminase, alkaline phosphatase, and triglycerides, which must be noted as drug-related side effects of clarithromycin-based triple therapy. In group II such changes did not happen. In III IV and V groups significantly decreased alanine transaminase, asparagines transaminase, blood bilirubin, alkaline phosphatase, cholesterol and triglycerides.

**CONCLUSIONS.** Standard clarithromycin-based triple eradication therapy causes or increases the frequency of dyspeptic complaints related with antibiotics has low efficacy and hepatotoxic