

New technologies in the complex therapy of peptic ulcer disease
duodenum K.G. Khachumova,
N.V. Leontyev
(GOU VPO RNIMU named after N.I. Pirogov, Moscow, Russia)

The treatment of peptic ulcer disease remains a challenge for doctors. The presence of *Helicobacter pylori* is considered the most important etiopathogenetic factor in the development of gastric ulcer and duodenal ulcer (DU) [6, 10]. The lack of schemes that guarantee 100% success makes researchers look for new ways to solve this problem. The largest number of meta-analyses are devoted to assessing the effectiveness of first-line therapy regimens, which traditionally include a proton pump inhibitor, clarithromycin, and amoxicillin (or metronidazole) [7, 9]. If in the mid-90s of the last century the efficiency of this scheme was 90%, now in many regions of the world it rarely exceeds 60% [10]. The results of numerous studies by foreign and domestic authors have shown a high therapeutic activity of omeprazole, a proton pump blocker in the treatment of DU. The activity of therapy with omeprazole on the acid-producing function of the stomach, the state of the mucous membrane of the stomach, duodenum and the degree of contamination of *Helicobacter pylori* has been proven [1, 4]. However, the treatment of duodenal ulcer disease remains a paramount task requiring innovative treatment approaches. One of such methods, which allows eliminating microorganisms [3, 13, 17] and activating reparation processes [12], is the use of low-intensity radiation of medications used to treat this pathology and recorded on water. the state of the mucous membrane of the stomach, duodenum and the degree of contamination of *Helicobacter pylori* [1, 4]. However, the treatment of duodenal ulcer disease remains a paramount task requiring innovative treatment approaches. One of such methods, which allows eliminating microorganisms [3, 13, 17] and activating reparation processes [12], is the use of low-intensity radiation of medications used to treat this pathology and recorded on water.

The purpose of our work was to study the possibility of complex therapy of peptic ulcer duodenum with the use of innovative technology for rewriting the properties of pharmacological preparations on a water basis using the "IMEDIS" equipment.

Research objectives:

1. To study the clinical picture of duodenal ulcer during therapy with the use of the classical treatment regimen (group 1), complex therapy, including taking omez 40 mg and aqueous forms of drugs, according to the classical scheme (group 2), monotherapy with omez 40 mg (group 3).
2. Assess the endoscopic picture during treatment in 3 groups.
3. Determine the degree of eradication during therapy in 3 groups.

Materials and methods

The study involved 60 women with DU in the acute stage, at the age of 30.5 ± 4.8 years. The diameter of the ulcers was 7.6 ± 0.7 mm. Single ulcers were detected in $79 \pm 8\%$ of patients, multiple - in $21 \pm 8\%$. In all patients, the onset of symptoms did not exceed 1 year.

Depending on the therapy, the patients were divided into 3 groups: 1st - 16 patients who received omeprazole 40 mg - 2 times a day, amoxicillin 1000 mg - 2 times a day, klacid 0.5 - 2 times a day, duspatalin - 2 times a day; Group 2 - 24 patients received omeprazole 40 mg - once a day, omez in the form of radiation - 2 times a day, sumamed in the form of radiation - 2 times a day, doxycycline in the form of radiation - once a day, duspatalin in the form of radiation - 2 times a day; Group 3, who received omeprazole 40 mg - 1 time per day.

The rewriting of the properties of the preparations omez, sumamed, doxycycline, duspatalin and the selection of their dosage were carried out on the IMEDIS apparatus according to the generally accepted method [3].

All patients underwent esophagogastroduodenoscopy (EGDS) initially, and then after 14 days and 28 days. After 6-8 months. EGDS was performed in group 1 in 14 patients, in group 2 - in 20 patients, in group 3 - in 20 patients. During EGDS, 2 biopsies were taken, which were fixed in Bowen's solution and embedded in paraffin. Dewaxed serial sections were stained with hematoxylin and eosin (for morphological examination). The dynamics of the manifestation of clinical symptoms, such as abdominal pain, heartburn, belching, nausea and vomiting, was also assessed in patients.

results

Table 1

Dynamics of the frequency of scarring of duodenal ulcers,% (p ± mp)

Term	1st group	2nd group	Group 3
After 2 weeks.	68.4 ± 0.2	90.4 ± 0.4 *	86 ± 1.3 *
After 4 weeks.	82 ± 1.2	98 ± 0.3 *	97 ± 1.4

* Significant differences between indicators, p <0.05.

table 2

Time for relief of the main clinical symptoms during treatment, days (p ± mp)

Symptom	1st group	2nd group	Group 3
Stomach ache	7.1 ± 0.2	2.1 ± 0.2 *	2.7 ± 0.4
Heartburn	5.3 ± 0.3	3.3 ± 0.3	4.6 ± 0.5
Belching	5.2 ± 0.7	4.2 ± 0.7	5.1 ± 0.7
Nausea	3.4 ± 0.2	2.4 ± 0.2	3.8 ± 0.2
Vomit	2.2 ± 0.2	1.2 ± 0.2	2.8 ± 0.3

* Significant differences between indicators, p <0.05.

Table 3

Dynamics of the degree of H. pylori eradication before and after treatment after 2 weeks, 6 months,%
(p ± mp)

H. pylori index, %	1st group		2nd group		Group 3	
	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
	93 ± 7	12.4 *	92 ± 8	9.2 *	93 ± 7	60
After 6-8 months.		43 *		twenty*		70

* Significant differences between indicators, p <0.05.

Against the background of ongoing therapy in patients of the 2nd group, a decrease in pain syndrome was noted at the end of the first day, and its disappearance - by the 2nd day; in the 1st group, a decrease in pain syndrome was observed by the 3rd day, and its disappearance - by the 7th day; in group 3, a decrease in pain syndrome was observed by the 2nd day, disappearance - by the 3rd day. With EFGDS, the rate of scarring of defects in the gastroduodenal zone on the 14th day in the 1st group - in 11 patients (68.4%), in the second group - in 22 patients (90.4%), the results of the third group are comparable with the results of 2- th group; on the 28th day - in 13 patients (82%) of the 1st group and in all patients of the 2nd and 3rd groups. When assessing the effectiveness of eradication of *Helicobacter pylori*, the best indicator was observed in the 2nd group. In group 1, eradication was achieved in 14 (88.6%) patients, in group 2 - in 22 (90.8%) patients, in group 3 - in 7 (30%) patients.

In the dynamics of observation (after 6–8 months): in all the studied groups, erosive and ulcerative changes were not detected in EFGDS; in the 1st group there is no contamination of *Helicobacter pylori* in 8 (57%) patients, in the 2nd - there is no contamination of *Helicobacter pylori* - in 16 (80%) patients, in the 3rd group - in 7 (35%) patients.

Discussion

Our data on the treatment of DU do not differ from the literature data for groups 1 and 3 [9, 15, 16]. The authors described the advantage of eradication therapy in relation to the anti-relapse effect for 3 years, however, there was no difference in the rate of epithelialization and relief of clinical symptoms [5], in addition, the sensitivity to antibiotics used in eradication regimens decreased, which, according to Yu. A. Kucheryavy [2], led to a decrease in the effectiveness of this therapy. The innovative technology of IC Medicals has made it possible to obtain the best results in complex treatment with

omeprazole as a result of the multifactorial effect of this therapy. The literature describes works on the use of this treatment for gastritis [14]. V.L. Voeikov in experimental works showed a high sensitivity of bicarbonate solutions to the action of external factors of low intensity [2]. Bicarbonate buffers in the human body may be one of the points of application for low-intensity therapy. B.P. Surinov et al. Managed to prove the effectiveness of this technology in relation to immunocompetent cells in mice [8]. An increase in immunity in humans against the background of this therapy may contribute to the best clinical effect [8, 18]. The mechanism of action of this therapy may be associated with a change in the activity of cell membranes, activation of K and Ca currents, and activation of biochemical processes. Processes arising in the tissues against the background of this therapy led to an analgesic effect, anti-inflammatory, decongestant. We observed the restriction of the growth of pathogenic flora, which is described by other authors against the background of low-intensity radiation [3, 11, 13, 17]. Thus, the use of complex therapy with the inclusion of drug copies of drugs, allows you to obtain a more pronounced clinical effect in patients with duodenal ulcer in the early stages of therapy.

Bibliography

1. Andreev D.N., Kucheryavyy Yu.A. Micro- and macroorganism factors affecting the effectiveness of anti-Helicobacter therapy // *Consilium Medicum*. - 2013. - T. 15, No. 8. - P. 5-9.
2. Voeikov V.L., Vilenskaya N.D., Do Min Ha, Malysenko S.I., Buravleva E.V., Yablonskaya O.I., Timofeev K.N. Stable nonequilibrium state of bicarbonate water systems // *Journal of Physical Chemistry*. - 2012, volume 86. - No. 9. - S. 1518-1527.
3. Gotovsky Yu.V., Perov Yu.F. Modulating effect of external magnetic fields on growth, development and pathogenicity of microorganisms // Abstracts and reports. IX International Conference "Theoretical and Clinical Aspects of the Application of Bioresonance and Multiresonance Therapy". Part II. - M.: IMEDIS, 2003. - S. 31-62.
4. Kucheryavyy Yu.A., Andreev D.N., Barkalova E.V. Clinical and molecular aspects resistance of *Helicobacter pylori* to antibacterial drugs // *Medical Council*. - 2013. - No. 10. - P. 11-15.
5. Lapina T.L. Peptic ulcer: treatment options at the turn of the century // *Consilium Medicum*. - 2000. - Vol. 2, No. 7. - S. 12-17.
6. Maev I.V., Samsonov A.A., Andreev D.N. et al. Clinical significance of *Helicobacter infection pylori* // *Clin. honey*. - 2013. - T. 91, No. 8. - P. 4-12.
7. Minushkin O. N., Zverkov I. V. The effectiveness of Omez and Lanzap in the treatment of peptic ulcer disease duodenum "Russian journal of gastroenterology, hepatology, coloproctology." - No. 6, 2000. - P. 76-79.
8. Surinov B.P., Khachumova K.G., Germanov E.P. Modification of the biological activity of water on based on energy information technologies: experiments with immunomodulatory agents // *St. Petersburg. International research journal*. - No. 4 (11), 2013. - Part 3. - P. 77-79.
9. De Francesco V., Ierardi E., Hassan C., Zullo A. *Helicobacter pylori* therapy: Present and future // *World J. Gastrointest. Pharmacol. Ther.* - 2012. - Vol. 3, No. 4. - P. 68-73.
10. Gasparetto M., Pescarin M., Guariso G. *Helicobacter pylori* eradication therapy: Current availabilities // *ISRN Gastroenterol.* - 2012. - Vol. 2012. - P. 186-734.
11. Galle M. Bioresonance Therapy - a complementary medical method. 2009.
12. Gerald G. et al. Effects of electromagnetic fields of low frequency and low intensity on rat metabolism. *BioMagnetic Research and Technology* 2008, 6: 3.
13. Heredia-Rojas JA, Gomez-Flores R., Rodriguez-de la Fuente AO, Monreal-Cuevas E., Torres-Flores AC, Rodriguez-Flores LE, Beltcheva M., Torres-Pantoja AC Antimicrobial effect of amphotericin B electronically activated water against *Candida albicans*. *African journal of Microbiology Research* 6 (15). 2012, pp. 3685-3689.
14. Nienhaus J., Galle M. Placebo Controlled Study on the Effects of a Standardized MORA Bioresonance Therapy on Functional Gastro Intestinal Complaints. *Forsch Komplementarmed*

2006; 13: 28-34.

15. Peura DA, Crowe SE *Helicobacter pylori* // Sleisenger & Fordtran's gastrointestinal and liver disease / Eds. M. Feldman, LS Friedman, LJ Brandt. - 9th ed. - Philadelphia, Pa: Saunders Elsevier, 2010: chap 50.

16. Ruggiero P. *Helicobacter pylori* infection: what's new // Curr. Opin. Infect. Dis. - 2012. - Vol. 25, No. 3. - P. 337-344.

17. Strasak L., Vetterl V., Smarda J. Effects of low-frequency magnetic fields on bacteria *Escherichia coli*. *Bioelectrochemistry* 55 (2002) 161-164.

18. J. Walleczek. Electromagnetic field effects on cells of the immune system: the role of calcium signaling. *The FASEB Journal*. Vol. 6 (1992). pp. 3177-3185.

K.G. Khachumova, N.V. Leontyeva New technologies in the complex therapy of duodenal ulcer // - M.: "IMEDIS", 2014, v.1 - P.61-68

[To favorites](#)