ABSTRACT
Comparative assessment of clinical efficiency of omeprazole and rabeprazole in treating gastroesophageal reflux disease (GERD). 65 patients with a verified diagnosis GERD were examined. Comparative clinical investigations of using of omeprazole and rabeprazole have revealed effectiveness of both drugs in the therapy of GERD. However, rabeprazole showed antisecretory action in the earlier periods, providing stable clinical remission of GERD and early scarring of erosive lesions of the esophageal mucosa, compared with omeprazole.

INTRODUCTION
In accordance with the approved standards of treatment for gastroesophageal reflux disease (GERD), antisecretory drugs are believed to be the basis of pharmacotherapy of this illness. Among them more preferable are proton pomp inhibitors (PPI) due to their safety and effectiveness that was shown by several international evidence-based researches supporting their use in clinical practice [Kalinin, 2004; Dent et al., 2005; Lazebnik et al., 2007; Tytgat et al., 2008]. From the viewpoint of systemic approach for the treatment of GERD, the use of PPI is considered by Minushkin et al. (2008) as the most effective because of the duration of action of drugs of this group since one of the therapeutic options is to “hold” the pH of gastric juice above 4 within not less than 18 hours.

The purpose of our research is to evaluate efficiency of PPI of the first (omeprazole) and second generations (rabeprazole) in treating GERD.

Materials and methods of research
The study included 65 patients with a verified diagnosis GERD (27 men and 38 women) aged from 27 to 53 years (average age 38.7±5.9 years old). Verification of the diagnosis was based on specific complaints, medical history, clinical and laboratory data, as well as results of endoscopy. Clinical manifestations of GERD in patients were assessed by the Likert scale in which the patients assess the major subjective clinical symptoms as heartburn, eructation, and regurgitation in the scoring system. Study of the pH of gastric juice was performed by transendoscopic, topographical pH-metry using acidogastrometer “AGM-03” (“Istok-sistema”, Fryazino) by the method of Ilchenko et al. (2001).

The patients were randomized into two comparative groups. The first group of patients received omeprazole (O) in a daily dosage of 20 mg twice a day within 8 weeks. The second group received rabeprazole (R) in a daily dose of 20 mg once daily for 8 weeks.

Results of research and discussion
Assessment of dynamics of decrease of the main symptom of GERD as heartburn has showed (Table 1) that O and R contribute to successful cupping of this symptom by the 4th week. However, detailed analysis showed that effective decrease of heartburn occurs after an average of 4.7±0.5 days, and in 35% of patients after 7 days of treatment with O, respectively. In the use of R, decrease of heartburn was noted at the 2.5±0.3 days. In all patients the clinical effect of the drugs was observed in one week. Accordingly, the degree of heartburn cupping was significantly more pronounced in the patients receiving R both at the ends of the 4th and especially of the 8th weeks of treatment.

Dynamics of eructation cupping has shown the similar trends. When using R, the cupping of this symptom was significantly higher at the end of the 4th week, in comparison with the patients receiving O. By the end of the 8th week, the differences between the groups were insignificant, although there was a continuing tendency to a more persistent reduction of this symptom in patients treating with R.

Comparative analysis of decrease of regurgitation has shown that the differences between the groups were statistically insignificant. However, by the rate of onset of effect of the drug, effect of R appeared in the earlier periods than effect of O (3.6±0.7 days vs. 5.5±0.4 days, respectively).

Study of endoscopy of esophagitis in GERD showed that the rates of erosive reflux disease (ERD) and nonerosive reflux disease (NERD) was similar (Figure 1). After 8 weeks, repeated endoscopy revealed decrease of ERD in patients of first
COMPARATIVE EVALUATION OF EFFICIENCY OF PROTON PUMP INHIBITORS OF THE FIRST AND SECOND GENERATIONS IN TREATING GASTROESOPHAGEAL REFLUX DISEASE

group more than 2 times (26.7%), whereas the number of patients with NERD was increased from 53.3% up to 73.3%, respectively. In the second group, the number of patients with ERD decreased from 48.6% to 5.7%, and the number of those with NERD increased from 51.4% up to 94.3%, respectively.

After usage of O, conducted transendoscopic, topographical pH-metry has shown significant increase of the pH level in the zone of active acid-forming, i.e. in the anterior and posterior walls of the body of the stomach (Figure 2). In this group pH level was in the range of 3.8 at the 4th week, and at level 4.3 by the 8th week. In patients treated with R pH level in active zone of acid-forming was above 4 at the 4th week, and it was 4.6 by the end of the 8th week. In patients treated with O the pH level in the zone of acid-neutralization located in the antrum of the stomach was at level 3.9 vs. normal 4.6 at the 8th week. Patients receiving R for the 4th week had normal values of pH in the antrum which remained normal by the 8th week.

Thus, according to our research, the use of PPI as antisecretory therapy for GERD is effective. Usage of O and R reduces pain and dyspeptic symptoms of the disease. At the 8th week of treatment, most patients have decreased inflammatory and erosive lesions of the esophagus, and the majority of patients achieve endoscopic remission. Comparative analysis of efficiency of 40 mg of O and 20 mg of R showed the preeminence of R by practically all abovementioned parameters. This was provided by faster onset of antisecretory effect and stable maintenance of optimum pH level in the stomach.

Figure 1. Endoscopic findings in GERD after 8 weeks of treatment and data of transendoscopic topographic pH-metry of the stomach in patients with GERD in dynamics of treatment

Table 1. Clinical manifestations of GERD by the Likert scale in dynamics of treatment (scores)

<table>
<thead>
<tr>
<th></th>
<th>Omeprazole (40 mg/day)</th>
<th>Rabeprazole (20 mg/day)</th>
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<tbody>
<tr>
<td></td>
<td>Initially</td>
<td>After 4 weeks</td>
</tr>
<tr>
<td>Heartburn</td>
<td>4.7±0.3</td>
<td>2.6±0.1*</td>
</tr>
<tr>
<td>Eructation</td>
<td>4.1±0.4</td>
<td>2.4±0.2*</td>
</tr>
<tr>
<td>Regurgitation</td>
<td>3.5±0.2</td>
<td>2.0±0.1*</td>
</tr>
</tbody>
</table>

Notes: * - differences are reliable to initial parameters
** - significant differences between groups

Scores on the Likert scale are the following:
1. The symptom does not trouble.
2. Causes some anxiety (can be ignored).
3. Troubles moderately (no effect on the daily activity and at night)
4. Troubles considerably (during the night and the day)

Troubles very considerably, constantly violates activity during the day and does not allow have a sleep (rest)

Conclusions
1. The use of PPI as basic antisecretory therapy for GERD is an effective method of treatment resulting in stable cupping of clinical symptoms and in reduction of morphological lesions of the esophageal mucosa.
2. Clinical efficiency of rabeprazole is shown by reduction of GERD symptoms in the earlier periods and more stable antisecretory action, compared with omeprazole.

REFERENCES

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