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EVALUATION OF THE EFFECTIVENESS OF BISMUTH TRICALCIUM DICITRATE IN THE TREATMENT OF IRRITABLE BOWEL SYNDROME

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Abstract
Irritable bowel syndrome (IBS) refers to functional diseases in which the pathogenesis of the development of symptoms cannot be explained by organic causes. According to modern concepts, IBS is a psychosocial disorder with impaired visceral sensitivity and intestinal motor activity, due to or lowering the pain threshold, or an increase in the intensity of the sensation of pain impulses at a normal threshold of their perception.
IBS is considered one of the most common diseases of the internal organs. Among the adult population 10- 20% of individuals have relevant IBS symptoms. According to the results of most epidemiological studies, women suffer from this disease approximately 2 times more often men. The peak incidence occurs at the most active working age - from 24 years to 41 years.

Keywords: Irritable bowel syndrome (IBS), gastrointestinal tract (GIT), bowel movements, abdominal pain, intestinal motility, changes in stool frequency and shape.

Introduction

The purpose of the study

The purpose of this study was to determine the effectiveness of the use of bismuth tricalcium dicitrate (Novobismol drug), prescribed for the treatment of patients with IBS is of a mixed type.

Materials and research methods

The study of the effectiveness of bismuth tricalcium dicitrate (Novobismol drug) was conducted in the gastroenterology department at the multidisciplinary clinic of the Tashkent State Medical University.
The study included 20 patients who A diagnosis of mixed-type IBS was established in the absence of severe concomitant pathology. The average age of the patients was (36.4 ± 4.9) years. The distribution of patients by gender: men – 9, women – 21. The patients were treated with tricalcium bismuth dicitrate (Novobismol), which was prescribed 1 ta tablet 3 times a day 30 minutes before meals and 1 tablet at night for three weeks. In the patients under observation, the most common comorbidities were: gastroduodenitis – in 6 (20%), hypertension – in 5 (16%). All patients included in the study underwent the following examinations:
– assessment of the severity of gastrointestinal complaints related to the course of IBS using a questionnaire (much attention was paid to the nature of gastroenterological complaints, frequency and quality of stool);

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– the coprogram: according to the generally accepted methodology, examination of the feces of patients received in the morning on the day of the study. The severity of amylorrhea, creatorrhea, and steatorrhea was assessed on a three-point scale;

– assessment of the patient's quality of life using the SF-36 questionnaire. The quantitative assessment was carried out according to the following indicators: Physical functioning Functioning – PF), role-based functioning due to physical condition (Role-Physical Functioning – RP), pain intensity (Bodily pain – BP), General health (General Health – GH), vital activity (Vitality – VT), Social Functioning – SF), role-related functioning due to an emotional state (Role-Emotional – RE), mental health (Mental Health – MH). The SPSS 17.0 program (SPSSInc., USA) was used for statistical processing of the obtained data. Due to the pronounced differences in the distribution of the analyzed variation series from the normal distribution, nonparametric statistical criteria were used for data analysis. A paired criterion was used to assess the effect of the course of administration of the studied drug Wilcoxon, which was used to compare the initial and final values of the assessed features (the study design did not imply the need to use a control group in this statistical analysis, since there was only one systemically active factor – taking the drug under study – in the absence of other factors that could have any significant impact on the indicators studied in dynamics)

Table 1. Frequency of occurrence of clinical manifestations of IBS before and after the course of taking the drug Novobismol

Complaints	Frequency of occurrence, number of patients (%)	
	Initiation of treatment	End of treatment
Gastrointestinal complaints		
Bloating of the abdomen	13 (65%)	2 (10%)
Rumbling in the stomach	8 (40%)	4 (20%)
Cramping abdominal pain	12 (60%)	4 (20%)
Pain along the colon	14 (70%)	6 (30%)
Straining during bowel movements	14 (70%)	9 (45%)
Belching of air	8 (40%)	3 (15%)
Feeling of heaviness in the epigastrium	10 (50%)	4 (20%)
General complaints		
General weakness	6 (30%)	0 (0%)
Malaise	9 (45%)	2 (10%)
Drowsiness	6 (30%)	4 (20%)
Increased irritability	7 (35%)	4 (20%)
Frequent mood swings	6 (30%)	6 (30%)

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Table 2. Dynamics of quality of life indicators for patients with IBS by mixed trip after a course of bismuth tricalcium dicitrate

Quality of life scale	Meaning indicator		Significance differences, p
	Beginning treatment	The end of treatment	
GH (general health) 63 75 p < 0.05	63	75	p < 0,05
PF (physical functioning)	78	86	p > 0,05
RP (role functioning due to physical condition)	65	83	p > 0,05
RE (role functioning due to emotional state)	74	87	p > 0,05
SF (social functioning)	56	60	p > 0,05
BP (pain intensity)	78	85	p > 0,05
VT (vital activity)	60	72	p < 0,05
MH (mental health)	63	75	p < 0,05

The effectiveness of the treatment of tricalcium bismuth with dicitrate (Novobismol) was assessed according to the following indicators: the disappearance of subjective clinical symptoms, the dynamics of quality-of-life indicators.

Research results and discussion

In patients with mixed type IBS included in the study, the most common complaints were pain along the colon (in 14 patients), the need for severe straining during defecation (in 14 patients), bloating (in 13 patients) and cramping abdominal pain (in 12 patients). The frequency of clinical manifestations of IBS before and after a course of taking bismuth tricalcium dicitrate (Novobismol) is shown in Table 1.

To assess the severity of pain, patients assessed the degree of abdominal discomfort according to VAS from 1 to 10 points, where the highest number of points corresponded to the greatest abdominal discomfort. Before the start of therapy, the average value of this indicator was (5.5 ± 1.7) points, after the end of the course of treatment – (3.8 ± 1.0) points, the decrease in abdominal discomfort was statistically significant ($p < 0.05$)

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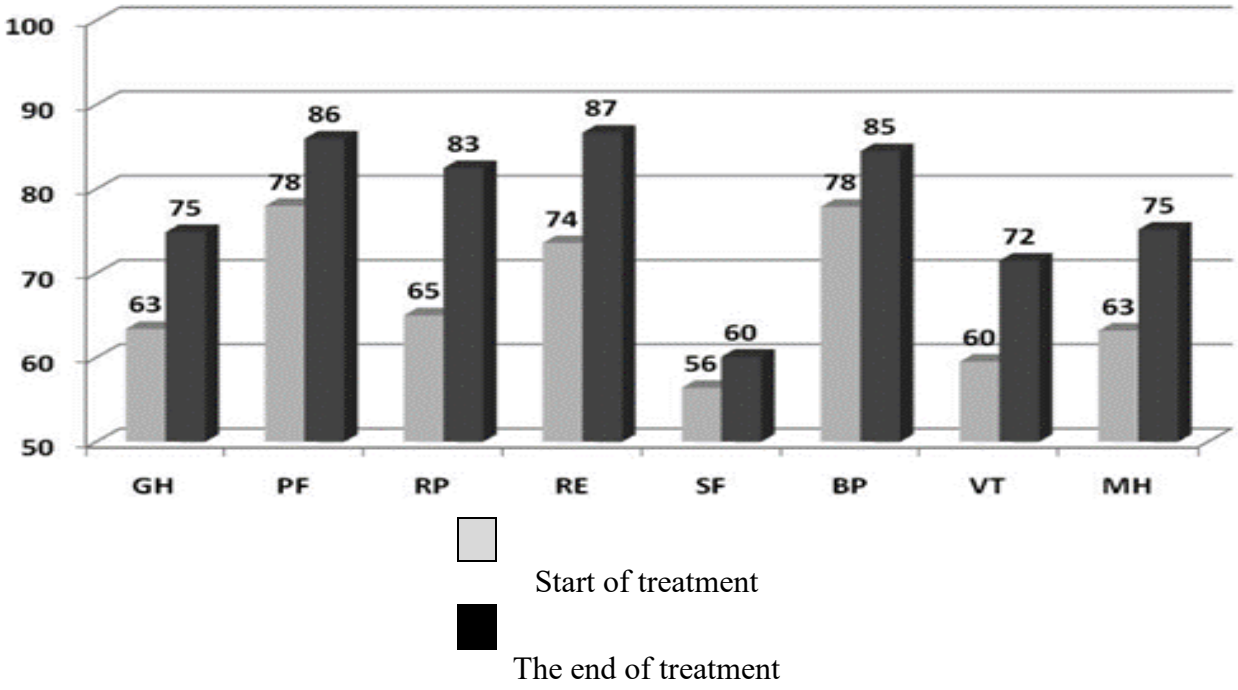

Fig. 1. Dynamics of quality of life indicators in patients with mixed type IBS. The abscissa axis shows the quality of life scale, and the ordinate axis shows the number of points.

Thus, after a course of treatment with tricalcium bismuth di- citrate (Novobismol), a significant reduction in the clinical manifestations of IBS was observed: the severity of pain decreased and the frequency of both gastrointestinal and general complaints decreased. Coprological examination of feces in individual patients revealed either creatorrhea or steatorrhea. After the course of treatment, a decrease in the frequency of digestive disorders was noted. Before starting therapy, the vast majority of patients with mixed-type IBS had quality-of-life scores at an average level. The quality of life indicators of the patients included in the study before and after treatment with bismuth tricalcium dicitrate (Novobismol) are presented in the Table. 2 and in Fig. 1.

After a course of treatment with bismuth tricalcium dicitrate (Novobismol preparation), positive dynamics was observed on all scales of quality of life, while statistically significant differences ($p < 0.05$) were found in the dynamics of indicators of the scales of general health, vital activity and mental health.

Conclusion

The results of the conducted studies indicate the effectiveness of bismuth tricalcium dicitrate (drug Novobismol), administered orally for three consecutive weeks, 1 tablet 3 times a day 30 minutes before meals and 1 tablet at night in the treatment of patients with mixed type IBS.

The use of the studied drug led to a positive clinical effect in all observed patients: the severity of pain decreased, and the frequency of both gastrointestinal and general complaints decreased. Against the background of tricitrate bismuth treatment, positive dynamics was observed on all scales of quality of life, while statistically significant differences were found in the dynamics of indicators of the scales of general health, vital activity and mental health. It should be noted the favorable dynamics

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of the psychoemotional status of patients, which was manifested by a decrease in the severity of situational anxiety, personal anxiety and a decrease in the manifestations of depressive states.

• The drug Novobismol has a positive effect on the clinical picture of the disease in patients with IBS.

• The drug "Novobismol" helps to harmonize the rhythm of contractions of the upper gastrointestinal tract.

• When using the drug Novobismol, patients with IBS improve their quality of life and mental and emotional state.

• Novobismol is well tolerated, safe, and may be recommended for use in patients with IBS.

• The treatment regimen that can be recommended for IBS to achieve a clinical effect is a course of taking Novobismol for three weeks, 1 tablet 3 times a day 30 minutes before meals and 1 tablet at night.

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