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## **EXPERIENCE OF OPTIMIZING TREATMENT OF ACUTE INTESTINAL DISEASES IN BUKOVYNA**

**Abstract.** *The article dedicated to the study of efficiency application of contemporary probiotic «Probiz» as the component of the holiatry for patients with acute intestinal infection. Clinical and microbiological efficiency of probiz is well-proven as bacterial preparation, that could correct the abnormal intestine microbiocenosis from the first days of acute intestinal disease, caused by salmonella, shigella, citrobacter, proteus, pathogenic staphylococcus. «Probiz» could recommended in the holiatry of adult patients with different age and sexes in the case of acute diarrhea syndrome probably of infectious origin.*

*Key words: acute intestinal disease, probiz, treatment, microbiocenosis.*

**Introduction.** Globally, the proportion of infections transmitted by fecal-oral mechanism is probably the largest. The problem of acute intestinal infections (All) and their treatment is closely connected with the microbiocenosis of intestines, which microflora is the primary target of the action of the exogenous flora and its factors of aggression. It is known that almost all patients with All have varying degrees of the intestinal dysbiosis in the first days. That means clinical and laboratory syndrome with changes of qualitative and/or quantitative composition of microflora of a biotope, translocation of various representatives in their unusual biotopes, the development of metabolic and immune disorders and possible clinical symptoms with amplification specific to the All digestive disorders with violation of water-electrolyte metabolism, the emergence enteral syndrome (diarrhea, bloating, rumbling) often the dysfunction of the colon, violation of the synthesis and absorption of essential vitamins, metabolic disorders and the development of All prolonged duration. However, many aspects of pathogenesis and treatment of bacterial diarrhea today is not investigated.

During the treatment of patients with All it is extremely important to protect the intestinal mucosa, and effective recovery of the normal intestinal biocenosis with the use of probiotics, which directly or indirectly affect the metabolic activity of relevant organs and tissues.

Currently the "gold standard" in the treatment and prevention of disorders of microbiocenosis, the use of bacterial medicine which regulates normal intestinal flora – probiotics are considered the best. In the correction of dysbiotic changes drugs on the basis of bifida and lactic bacteria obtained wide application. One of these drugs is "Probiz". It consists of Saccharomyces and complex of bifidobacteria and lactobacilli. Each 500 mg of hard gelatin capsule contains: Lactobacillus acidophilus 2 x10<sup>9</sup> CFU, Lactobacillus rhamnosus 1,5 x10<sup>9</sup> CFU, Lactobacillus plantarum 1,5 x10<sup>9</sup> CFU, Lactobacillus reuteri 1 x10<sup>9</sup> CFU, Lactobacillus casei 1 x10<sup>9</sup> CFU, Bifidobacterium bifidum 1 x10<sup>9</sup> CFU, Saccharomyces boulardii 2 x10<sup>9</sup> CFU, in all 10 x10<sup>9</sup> CFU live probiotic organisms. Today, the influence of Probiz components on the state of the microflora of the colon and clinical dynamics

of enteric infections has not been studied enough.

**Objective:** to study the effect of complex treatment including Probizon the state of the intestinal microbiota and clinic of acute intestinal diseases.

**Materials and methods.** Under the supervision in infectious hospital MMI "Regional clinical hospital" Chernivtsi (Ukraine) there were 21 patients aged 18 to 54 years old (food poisoning was diagnosed in 7 people, salmonellosis – 9, gastroenterocolitis– in 5 patients). All patients were admitted to hospital primarily on the 2nd day of illness with an average degree of severity of the disease; there were 8 men and 13 women. the diagnosis was made on the basis of clinical and epidemiological data and with the help of coproculture verified the causative agent of all. Material for the study of species composition and populational level of microflora of cavity of the colon in the patients with acute intestinal infection were stool, which were taken from the median portions of faeces put in sterile bottles and transported to the microbiological laboratory of the regional clinical hospital, where a comprehensive microbiological study was carried out. The term since collection of material until the beginning of study did not exceed 2 hours.

All patients fulfilled clinical examination with the dynamics of a detailed study of the epidemiological history. It was found that the common factors of infection were meat, dairy products, confectionery; these epidemiological factors of transmission coincide with the data of other scientists. The clinical tests, capriform, bacteriological examination of faeces, gastric lavage, vomitus were taken into account.

**Results and discussion.** 7 patients with food poisoning caused by opportunistic flora (Tsytroubakter, Proteus, pathogenic Staphylococcus) were examined. The condition of all the patients was moderate, gastroenteritis version (acute onset of disease, short incubation period, short-term fever to subfebrile digits, nausea, vomiting, epigastric pain mainly in and around the navel, liquid stool without pathological impurities to 5-7 times a day). Clear dependence of clinical variant of the disease

from the etiological factor (bacteriologically confirmed) was not found. Observation of intestinal microbiota (4 patients) included the presence of pathogenic organisms, the total number of E. coli E. coli with reduced enzyme activity, opportunistic enterobacteria, staphylococci, fungi genus Candida, lactobacilli, bifidobacteria, hemolytic cocci. Changes in microbiocenosis of the colon was detected in all surveyed: the decrease in the number of lactobacilli, bifidobacteria, total number the E. coli. The content of lactobacilli < 106 CFU /g of faeces was observed in 2 people, and B2 individuals was approaching to normal 107 CFU /g (normal > 106 CFU/g) of bifidobacteria was < 107 CFU/g in 1 patient, in remaining patients to the normal range (> 107 CFU / g). It was discovered a reduce of the total number of E. coli < 106 CFU / g in 1 patient. 9 patients with salmonellosis caused by S. enteritidis were 3 examined. The condition of all the patients was moderate, 6 patients had gastroenteritis version, 3 – gastroenterocolitis. In all examined onset of disease was with symptoms of intoxication (fever, raising the temperature to febrile digits, headache, malaise), dyspeptic symptoms (nausea, recurrent vomiting, epigastric pain and preferably in the periumbilical area, frequent liquid stool to 8-10 times a day, which is greenish in color with an unpleasant odor, and in 3 patients with admixtures of mucus). Signs of dehydration I-II (6% weight loss) were observed in all patients.

Observation of intestinal microbiota (4 persons) included the presence of pathogenic organisms, the total number of E. coli E. coli with reduced enzyme activity, opportunistic enterobacteria, staphylococci, fungi genus Candida, lactobacilli, bifidobacteria, hemolytic cocci. Changes in colon microbiota, reduce the number of lactobacilli, bifidobacteria, the total number of E. coli was detected in all patients. The reduction of lactobacilli <106 CFU / g of feces in 4 surveyed; the number of bifidobacteria was <107 KYO / g 2 was found. Reduce of total number of E. coli below <106 CFU / g to 2 people was discovered.

A clinical and laboratory study of 5 patients with gastroenteritis, gastroenterocolitis was

carried out. All the patients had gastroenteritis syndrome (acute onset, fever, nausea, vomiting, rumbling, abdominal pain predominantly in the periumbilical area, frequent watery stool character. The disease was of moderate severity.

The examination of intestinal microbiota (3 patients) included the presence of pathogenic organisms, the total number of E. coli E. coli with reduced enzyme activity, opportunistic enterobacteria, staphylococci, fungi genus Candida, lactobacilli, bifidobacteria, hemolytic cocci. Changes in colon microbiota was detected in all patients already in the first examination, reducing the number of lactobacilli, bifidobacteria, the total number of E.coli. The reduction of lactobacilli <10<sup>6</sup> CFU / g of feces in 3 patients, and 2 persons reached 10<sup>6</sup> CFU/g (normal > 10<sup>6</sup> CFU/g); the number of bifidobacteria was <10<sup>7</sup> KVO / g in 2 patients, and one reached in normal (>10<sup>7</sup>CFU/g). Discovered reducing the total number of E. coli below <10<sup>6</sup> CFU/g was found in 2 people.

All patients received basic therapy, detoxification, rehydration with parenteral ("Trysil" rheosorbilact) and oral ("rehydron") the introduction of salt solutions, "Nifuroxazide" chelators ("Enterosgel"), enzymes (replacement therapy) and 11 patients were additionally administered probiotic "Probiz" 1 capsule 2 times a day for 5 days.

As a result of clinical and laboratory monitoring it was found that patients who received a treatment of "Probiz" improved their general condition and normalization of stool notified before (an average of one day) compared to the control group.

**Conclusions.** 1. Experience of the inclusion to traditional therapy for patients with food poisoning, salmonella, gastroenterocolitis combined probiotic "Probiz" showed that the application of the scheme accelerates regression of symptoms of intoxication and diarrhea syndrome, which generally leads to a reduction in the duration of the acute period of disease.

2.The results of the examination showed the efficacy and safety of the studied probiotic drug "Probs" in acute intestinal infections, primarily of bacterial origin.

3. Control examination of faeces for Salmonella group by the method of coprocultures after treatment were negative, indicating bacteriological efficacy of probiotic against the pathogens of intestinal diseases.

Prospective for further researches is the study of microbiological representatives of colon microflora in the dynamics of treatment by probiotics combined with various intestinal infectious diseases (viral and bacterial).

#### References:

1. Возианова Ж.И. Диареегенные кишечные палочки / Ж.И. Возианова // Сучасні інфекції. – 2008. – № 3. – С. 4-9.
2. Андрейчин М.А. Бактериальные диареи / М.А. Андрейчин, О.Л. Ивахив. – К.: Здоров'я, 1998. – 142 с.
3. Бондаренко В.М. Идеи И.И. Мечникова и современная микроэкология кишечника человека / В.М. Бондаренко, В.Г. Лиходед // Журнал микробиологии. – 2008. – № 5. – С. 23-29.
4. Roy S.L., Scallan E., Beach M.J. The rate of acute gastrointestinal illnesses in developed countries / S.L. Roy, E. Scallan, M.J. Beach // Journal of Water Health. – 2006. – Vol. 4 (Suppl. 2). – P. 31-69.
5. Flint J.A., Van Duynhoven Y.T., Angulo F.J. Estimating the burden of acute gastroenteritis, food borne disease and the pathogens commonly transmitted by food: an international review / J.A. Flint, Y.T. Van Duynhoven, F.J. Angulo // Clinical Infectious Diseases. – 2005. – Vol. 41. – P. 698-704.
6. Hennessy T., Marcus R., Deneen V. Survey of physician diagnostic practices for patients with acute diarrhea: clinical and public health implications / T. Hennessy, R. Marcus, V. Deneen // Clinical Infectious Diseases. – 2004. – Vol. 38 (Suppl. 3). – P. 203-211.