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ASSESSMENT OF MICRONUTRIENT FAILURE IN NONSPECIFIC INFECTIOUS COLITIS

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Resume: Ulcerative colitis (UC) is a chronic inflammatory bowel disease characterized by periods of exacerbation and remission. Malnutrition and deficiencies of micronutrients such as iron, zinc, vitamins B, D, etc. are frequent companions of the disease. This work highlights the importance of a comprehensive assessment of the micronutrient status of patients with advanced UC. As part of the improvement of complex therapy, the mechanisms of deficiency, diagnostic approaches, as well as the possibilities of personalized correction are analyzed.

Keywords: nospecific yapali colitis, micronutrient, tankislik, nutritional status, davolash, ichakning yalliglanish kasalliklar.

ASSESSMENT OF MICRONUTRIENT DEFICIENCY IN NON-SPECIFIC ULCERATING COLITIS OF VARIOUS SEVERITY

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Summary: Non-specific ulcerative colitis (NUC) is a chronic inflammatory bowel disease characterized by periods of exacerbation and remission. Malnutrition and deficiency of micronutrients such as iron, zinc, vitamins of group B, D, etc., are frequent companions of the disease. This work considers the importance of a comprehensive assessment of the micronutrient status of patients with varying severity of UC. The mechanisms of deficiency, diagnostic approaches, and the possibilities of personalized correction as part of improving complex therapy are analyzed.

Key words : nonspecific ulcerative colitis, micronutrients, deficiency, nutritional status, treatment, inflammatory bowel diseases.

ASSESSMENT OF MICRONUTRIENT DEFICIENCY IN NONSPECIFIC ULCERATIVE COLITIS OF VARYING SEVERITY

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Resume: Ulcerative colitis (ulcerative colitis) is a chronic inflammatory bowel disease characterized by periods of exacerbation and remission. Nutritional disorders and micronutrient deficiencies, such as iron, zinc, vitamins B, D, etc., are frequent companions of the disease. This paper considers the importance of a comprehensive assessment of the micronutrient status of patients with varying degrees of severity of UC. The mechanisms of deficiency, diagnostic approaches, as well as the possibilities of personalized correction as part of the improvement of complex therapy are analyzed.

Keywords: ulcerative colitis, micronutrients, deficiency, nutritional status, treatment, inflammatory bowel diseases.

Introduction . Ulcerative colitis (UC) is a chronic inflammatory disease of the gastrointestinal tract, characterized by alternating periods of exacerbation and remission [1]. The main clinical manifestations of UC include diarrhea, abdominal pain, rectal bleeding, weight loss, and general malaise [2]. Diagnosis is based on symptoms, colonoscopy findings, histological analysis, and stool analysis, and exclusion of infectious causes [3]. Malnutrition is common in patients with inflammatory bowel diseases, and according to various studies, 18 to 62% of patients with ulcerative colitis suffer from malnutrition [4].

The chronic nature of the disease leads to the development of nutritional deficiencies, which are caused by prolonged diarrhea, limited food intake (including due to nausea, vomiting, anorexia), malabsorption, increased intestinal secretion, bleeding, and possible drug-drug interactions [5]. In this regard, the aim of this study was to analyze the level of trace elements in patients with ulcerative colitis and determine its relationship with the severity of the disease . Despite advances in pharmacotherapy, a high frequency of relapses and complications remains.

One of the factors that aggravates the course of the disease and reduces the effectiveness of treatment is the violation of the nutritional status, in particular, micronutrient deficiencies. Micronutrients are involved in the regulation of immunity, antioxidant protection, tissue regeneration and energy metabolism, and their deficiency can increase inflammation and impair the healing of the intestinal mucosa. However, micronutrient status is often an under-appreciated aspect in the treatment of patients with IBD [8].

The causes of ulcerative colitis are not fully understood to this day. Scientists believe that there are many factors that influence the development of ulcerative colitis. Another etiological factor is considered to be socio-economic factors. Many studies have observed the connection between socio-economic factors and the development of the disease. As a result of these studies, it was found that people with sufficient economic resources have a 20% higher incidence of the disease than those with less wealth[6]. Oral contraceptives are also considered another etiological factor in the development of ulcerative colitis. However, their importance is assessed differently by different researchers[9].

Currently, the main pathogenetic causes of ulcerative colitis are: hereditary predisposition, impaired intestinal defenses, intestinal microflora, and the immune system. One of the characteristic features of IBD is the presence of diffuse inflammation in the affected area of the colon, with the obligatory involvement of the intestine in this process. Inflammatory bowel diseases are of great medical and social importance due to their prevalence, chronicity, and severe course. In the last decade, we have witnessed an acceleration in the study of this disease. Despite the fact that the etiopathogenesis of IBD has not been fully elucidated, there have been a number of advances in this area that have allowed the development of new therapeutic methods [2,10].

Malnutrition is a common problem in patients with inflammatory bowel disease, occurring in 18–62% of patients with IBD. Given the chronic nature of the disease, there is a risk of

micronutrient deficiencies due to chronic diarrhea, decreased food intake (due to food restriction, anorexia, nausea, and vomiting), malnutrition, increased bowel movements, bleeding, bowel movements, and drug interactions[3].

Research objective : To assess the impact of micronutrient deficiencies on the course and outcomes of NCDs at different levels of severity.

Research methodology and method : In 2024-2025, the results of the analysis of 100 patients with nonspecific ulcerative colitis undergoing inpatient treatment at the gastroenterology department of the Bukhara Regional Multidisciplinary Medical Center will be obtained.

Patients were divided into three groups according to the severity of the disease (according to the Truelove and Witts scale). A comprehensive laboratory examination was performed, including the levels of iron, ferritin, vitamin B12, folic acid, zinc, selenium and vitamin D. Questionnaires (NRS-2002), anthropometry, as well as biochemical markers were used to assess nutritional status.

Results : The study included 100 patients (47 men and 53 women) with an average age of 42 years. All groups were similar in age, sex, and place of residence. Assessment of the severity of the disease according to the results of histopathological examination showed that in only two cases (8.7%) the disease was mild, in 47.8% and 43.5% of cases it was moderate and severe, respectively.

In 84 percent of patients with moderate disease, at least one micronutrient was found to be outside the reference range. In the acute course of NAC, iron (78%), vitamin D (71%), phosphorus (62%), and vitamin B12 (43%) deficiencies were most common. In patients with a mild course, the disease was often accompanied by isolated deficiency of vitamin D (35%) or iron (31%), while in the severe course, combined deficiencies were observed in 65% of patients. Correction of micronutrient deficiencies as part of complex therapy was accompanied by an improvement in laboratory markers of inflammation (C-reactive protein, leukocytes), as well as a reduction in clinical symptoms and a prolongation of remission (Table 1).

Table 1

Types of micronutrient deficiencies depending on the severity of the disease

NAC's pain level	Criticism frequency (in %)	Main shortage	Criticism correction effects
Light degree	—	Separate vitamin D (35%), temp (31%) deficiency	Symptoms and laboratory of the signs average improvement
Okay , okay. degree	84%	Yes what micronutrients : temp , vitamin D , pukh , vitamin B12	Inflammation laboratory mapkeplapini (S-peactive protein , leukocytes) improvement , clinical signs reduction , permission duration extension
Thygeloe techene (65%)	65%	Temp (78%), vitamin D (71%), puk (62%), vitamin B12 (43%) combined shortage	Clinical situation and laboratory of indicators noticeable improvement

this table of the disease pain to the extent closed micronutrient of deficiency frequency and the same as the others to the clinical result of correction effect multiplied .

With ulcerative colitis sick in the hospital of mikpoelementlap laboratory indicators with other dependency theme amount and statistically between the ages noticeable average negative the coupling , as well as pux amount and hemoglobin statistically noticeable average positive correlation showed . It's hard . passing ONE and light and average the status of the YaK in the region statistically in faking significant result V12 level 1.8 or when it is lower than that , it is painful passing ONE and light and average the status of the YaK in the region in contrast When $p < 0.001$ taken .

In the NAC micronutrients shortage beep how many to the factors dependent : soapy inflammation , swelling disorder , blood loss and your appetite decrease Mikponutpientlap , especially temp , pux , vitamin D and B12 and immunity slime the floor in recovery main Paul plays Use this article shortage of the disease far continue to the verb and standard therapy of efficiency to decrease take arrival possible . Satisfied not eating macro or microelements shortage as expression to be possible .

Often protein-energy shortage with related was macroelements deficiency , usually of the disease active or blind passing with sick in the hospital record will be done . Mikponutpient shortage immune to the system impression ulcerative colitis (UC) exit and to the cause reason to be Inflammatory signaling mechanisms many different mikpoelementlap , including pux , temp , vitamin D and vitamin B12 mistake will . Pooh in immunopegulation , proteinlap and in DNA synthesis , many enzymes on activation important Paul also plays gut of the wall obstacle function to support I helped. it doesn't work . Vitamin D main enzyme systems in activity mistake gives , cell growth processes in order will bring and cells free pediculosis by from injury protection thus , it has a pronounced antioxidant effect owner

Vitamin B12 neurotransmitter synthesis , antioxidant protection , oxidation phosphoplatting movements and theme in transport mistake doer beep floor ferment and reflect for cofactor as запун . IN ONE the most wide found systemic companion was theme shortage lymphocyte by cytokines work of the release to decrease and T- cells of ppolifepation to the destruction take comes.Mikpoelementlapning important to the police regardless , now in time with ulcerative colitis sick in the hospital Clinical significance of the lesions and food with reception to do regularity dedicated limited in quantity research exists .

So micronutrient deficiency assessment and own on time fix , esp his/her average blind and blind in the course of the NAC individual approach to treatment invincible composition part as closure necessary .

Conclusion . Micronutrient shortage In the NAC , especially blind passing in the hospital wide found and clinical relevance owner incident is considered Mikponutpient the situation regularly assessment treatment strategy optimization , clinical results improvement and basic therapy self-discipline excess possible gives . NAC treatment clinical recommendations on nutrient correction insertion promising direction is considered . With ulcerative colitis sick in the hospital microelements level not only additions appointment about door reception to do for , but immunity debilitating this shortage correction to the release to ripen I helped. gift possible follow cover for both assessment bran Magnesium level of the disease pain level index as service to do or closed colitis blind shape light and average from the pain separation for additional research transfer запун .

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