

Abstract:

Introduction: Crohn's disease is an illness of the digestive tract with an uncertain etiology which threatens the nutritional state of patients and in addition to other problems results in a worsening of the disease in reaction to primary treatment. The possibilities of optimizing the nutritional state are several: changing diet, enteral or parenteral nutrition or combination of both. It is necessary to arrange an entirely individual approach for ensuring the highest measure of attention and nutritional effectiveness.

Methods: The influence of enteral nutrition was monitored during a course of Crohn's disease. 84 patients with malnutrition and with an active form of Crohn's disease were included in this study. They were divided into 2 groups according to the type and dosage of enteral nutrition. The first group included patients who used partial enteral nutrition in the form of sipping with an energy value of 1200 kcal daily. Patients covered the remaining energy needs with a low-residue diet enriched by soluble fiber. The second group included patients who were given exclusive oligomeric enteral nutrition with a nasojejun tube for a period of eight weeks. The amount of enteral nutrition in both groups was individually adjusted and calculated, according to the Harris-Benedict equation. The transition for exclusive enteral nutrition was gradual as well as the return to solid foods. In selected patients the activity of the disease was evaluated with the help by a clinical questionnaire for determining the Harvey-Bradshaw index (HBI); furthermore, the following data were identified: body weight, body mass index (BMI) and the amount of fat-free mass by Tanita model TBF-310 which analyzes physical composition on the basis of bioelectrical impedance. The patients blood was tested in order to analyze inflammatory (C-reactive protein, CRP) and nutritional parameters (albumin, prealbumin). The level of ferritin was also monitored. Stool samples were collected for determining the fecal calprotectin (FC) as well. In addition concomitant anti-inflammatory therapy was noted. The parameters mentioned above were evaluated during a preliminary visit and after three months.

Results: All of the monitored values, Harvey-Bradshaw index, body weight, body mass index, C-reactive protein, fecal calprotectin, albumin, prealbumin and ferritin accounted for a significant improvement after three months. A clinical response occurred in most of the patients. Clinical remission occurred for $HBI \leq 4$ in 38% of patients with partial enteral nutrition and 24 % of patients with exclusive enteral nutrition given by a nasojejun tube. Lower values for achieving clinical remission compared to other studies reflect a possible non-compliance whose assesment, however, was not the subject of this work.

Conclusion: Enteral nutrition undoubtedly has a positive influence on a course of Crohn's disease. In this thesis effects have been proven first and foremost during the correction of malnutrition and the optimization of nutritional state which is an essential condition for starting and remaining in clinical remission.

Keywords: Crohn's disease, malnutrition, nutritional intervention, enteral nutrition