

The impact of immunonutrition in patients with cystic fibrosis

Abstract

The aim of the study was to evaluate the application of immunonutrition in adults with cystic fibrosis (CF) and malnutrition, who have been receiving enteral nutrition in the form of standard sipping for at least a year. In 30 adult patients, immunonutrice (Impact) was given for 8 weeks. After 8 weeks, patients returned to standard nutritional support. The application of immunonutrition led to a significant reduction in systolic blood pressure and heart rate, to an increase in glomerular filtration and significant changes in the plasma aminoacidogram. Serum amyloid-A (SAA) levels decreased significantly and increased again after the intervention. However, immunonutrition administration was associated with an increase in serum malonyldialdehyde, a decrease in serum glutathione peroxidase and selenium. Thus, administration of immunonutrition led to an increase in oxidative stress, but almost all values remained within physiological limits. At 6-year follow-up, the long-term prognosis in the multivariate analysis depended only on baseline FEV1 and the degree of pulmonary involvement, respectively. The frequency and duration of subsequent hospitalizations and long-term prognosis were significantly associated with plasma fibrinogen levels. The main finding of the work is the fact that the application of immunonutrition in patients with CF leads to a reduction in the activity of inflammatory parameters (SAA). However, it is associated with an increase in serum malonyldialdehyde as a marker of oxidative stress. Based on our results, it is likely that this increase in oxidative stress does not have negative clinical consequences.

Key words: cystic fibrosis; immunonutrition; inflammatory parameters; malnutrition; oxidative stress