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RELATIONSHIP BETWEEN THE NUTRITIONAL STATUS AND LUNG FUNCTION IN ADULT CYSTIC FIBROSIS PATIENTS

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Background: Cystic fibrosis (CF) is a world-wide disease occurring in virtually all ethnic groups. In Caucasians it is the most common lethal hereditary disorder with autosomal recessive inheritance. The steadily more effective treatment of the respiratory infection and more intensive nutritional support over the past 15-20 years have resulted in an impressive and continuing improvement in both the physical condition and survival of many individuals with cystic fibrosis. Along with lung function, nutritional status appears to be one of the most important prognostic indicators in cystic fibrosis patients. Different studies use different indices of nutrition, but, overall, a poor nutritional status appears to be independently associated with poor prognosis. **Aim:** To analyze the nutritional status and the stage of lung disease in cystic fibrosis (CF) adults. **Material and Methods**: The research was conducted in Department of Respiratory Diseases, Poznan University of Medical Sciences. A group of 39 CF patients (21 females and 18 males) was studied. The mean age was 23.9 ± 3.7 years (range 18-33 years). Patients were grouped according to the presence or absence of malnutrition. Body mass index (BMI) was used to single out the groups: normal weight (n_1=28) with BMI ≥ 18.5kg/m^2; malnourished patients (n_2=11) with BMI < 18.5kg/m^2. The severity of lung disease was determined by spirometry (FEV1% and FVC) and microbiological review. **Results**: The mean value of body mass index was 19.5 ± 2.9kg/m^2 (range 12.8 – 24.9kg/m^2). Malnutrition was established in 11 patients (28.2%), 5 patients suffered from severe malnutrition. 28 patients (71.8%) have a normal nutritional status. In this group (according to ESPEN guidelines) 9 patients was at risk of malnutrition (18.5 - 19.9kg/m^2). A statistical analysis revealed significant differences between malnourished and non-malnourished patients concerning the FEV_1% ($p = 0.009$) and FVC% ($p = 0.002$). Patients with malnutrition were more frequent colonized by *P. aeruginosa* and fungi (p=0.0001), but seldom by MSSA (p<0.0001). **Conclusions**: These data emphasize a close relationship between nutrition, lung function, and clinical course in CF. Normal body weight and the absence of *P. aeruginosa* infection was associated with better preservation of lung function.