17 Blood antioxidant factors measurement in cystic fibrosis patients

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Cystic fibrosis (CF) is a disease, which is characterized by persistent bacterial infections of lung, and elementary and nutrient deficiency. The aim of the study is a measurement of biochemical antioxidant factors in blood (glutathione, glutathione peroxidase, zinc, uric acid, homocysteine), and comparison with clinical and genetic parameters. CF patients group includes 29 persons (mean age-11.8 years old): female-13 (mean age-11.0), male-16 (mean age-12.6). Disease severity was estimated as a frequency of pulmonary exacerbations during the last 6 months. All cases were tested for 21 mutations of CFTR (delF508, delI507, del21kb, 394delTT, R334X, R347P, G542X, G551d, R553X, N1303K, 2143delT, 2184insA, 2113delA, 2118del4, 2141insA, delE672, 2176insC, 2183AA/G, 2183delAA, 2184delA, W128R), and classified in accordingly with CFTR genotypes into 5 subgroups: delF508/delF508; delF508/–; delF508/mut; mut/mut; wt/wt. Following comparisons were made between these subgroups for clinical and biochemical parameters: (1) cross comparison between all 5 subgroups; (2) delF508/delF508 *vs* others; (3) carriers of delF508 *vs* non-carriers. A significant difference for frequency of pulmonary exacerbations was identified between carriers of delF508 *vs* non-carriers (2.8 and 1.5, resp.). Correlation analysis did not revealed links with any of biochemical parameters, but the difference in average glutathione concentrations in these groups (4.69 and 3.7, resp.) was noted. Disease severity in CF patients is related with a kind of CFTR mutation, and delF508 is a marker of poorer clinical course. Also, data suggest a potential role of glutathione for ameliorating of clinical course in CF patients.