INVESTIGATION OF PHAGOCYTE FUNCTIONS IN PSEUDOMONAS-COLONIZED CYSTIC FIBROSIS PATIENTS

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August 28, 2022

Abstract

Introduction: Cystic fibrosis (CF) is an autosomal recessive disorder. Although it is considered as an epithelial disease due to impaired chloride transport, its pathogenesis is not clear. CF is classified as a syndrome with congenital defects of phagocyte in recent human inborn errors of immunity phenotypic classification. Neutrophils are the most effective cells in the eradication of bacterial infections such as *Pseudomonas aeruginosa*. The aim of this study was to investigate the phagocyte functions in pseudomonas colonized cystic fibrosis patients. **Material-Method:** A total number of 26 Pseudomonas colonized cystic fibrosis patients and 21 healthy controls (sex and age matched) were included in the study. Absolute neutrophil counts(ANC), immunoglobulin values (Ig), Migratest to evaluate chemotaxis in neutrophils and monocytes, CD11A/CD18/CD15 S (β2 integrin) adhesion molecules, Phagoburst test for intracellular bacterial killing were analyzed by flow cytometer. **Results:** Absolute neutrophil counts (ANC), CD15S expression on neutrophils and IgG, IgA and IgM levels were higher in CF patients than control group ($p<0.01$, 0,018). The neutrophils oxidative burst activity and chemotactic ability of CF patients did not differ from that of controls. Patients with Allergic Bronchopulmonary Aspergillosis (ABPA) and with a mutation of 2183AA>G had significantly lower chemotaxis index than the others (respectively p:0.01, p:0.01). **Conclusion:** Our results from a small group of patients does not support impaired functions such as migration and phagocytosis of neutrophils in patients with CF. Further studies involving more CF patients are needed to make a definitive interpretation.

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