

Neutrophil phagocytosis function and radical oxygen formation and influencing factors in type 2 diabetes mellitus patients

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Abstrak

The aim of this study was to investigate the increase in neutrophil count and the decrease in both phagocytosis and neutrophil oxidative burst (formation of radical oxygen) among type 2 diabetes mellitus (DM) patients and the normal range of phagocytosis function and oxidative burst in neutrophil from Non-DM control subjects. The aim of this study is also to investigate the factors that influence neutrophil count, phagocytosis function and neutrophil oxidative burst among type 2 diabetes mellitus (DM) patients. The examination was conducted using a flow cytometry. The study subjects were 142 type 2 DM patients and 65 Non-DM control subjects. Statistical analysis was performed using the Mann Whitney test and linear regression analysis. The results of this study indicated that there is impaired neutrophil function among type 2 DM patients. The results of this study also showed a correlation between Hemoglobin level, age, platelet count, and SGPT vs. neutrophil phagocytosis function, as well as a correlation between HDL cholesterol and (fMLP-stimulated) neutrophil oxidative burst. The study also showed a correlation between sex and stroke and (S. aureus-stimulated) neutrophil radical oxygen formation, a correlation between neutrophil count and platelet count, a correlation of fibA1c and fasting blood glucose level and (fMLP-stimulated) neutrophil radical oxygen formation. In a multivariate analysis, when adjusted to age and sex, there was a correlation between triglyceride and (baseline) neutrophil radical oxygen formation and between HDL cholesterol and (fMLP-stimulated) neutrophil radical oxygen formation.