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Determination of Free Fatty Acid Composition in Plasma Membranes of Neutrophils in Diabetics

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**Abstract:** Since frequent and serious infections occur in diabetic patients, the investigation of the function of neutrophils is of importance. Any change in the lipid composition of the plasma membrane could be one of the causes of these infections. In order to investigate this possibility and to determine any abnormalities, neutrophils and monocytes were separated by the Histopaque- 1119 method from the blood samples (20 ml) of 10 diabetic and 10 healthy persons. After disruption of the cells, membrane lipids and proteins were isolated. Free fatty acids of phospholipids in membrane lipids were isolated by hydrolysing with phospholipase B under an ultrasonic dismembranater. Free fatty acids were identified by gas chromatography at the chloroform phase. The results were compared with chromatogram of the standardised free fatty acids. It was established that there is a statistically significant difference in the plasma membrane free fatty acid composition of neutrophils between the patients and the control group ( $p<0.001$ ). This study suggests a relationship between neutrophil dysfunction in diabetic patients and the lipid components of the neutrophil plasma membrane.

**Key Words:** plasma membrane, phospholipase B, free fatty acid, neutrophil

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