Immunophenotypical Aspects of Peritoneal and Liver Macrophages Derived Animals with the Model of Alloxan Diabetes (Type I) and Their Correction by Sodium Aminodiglycophthalazidione in vitro

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In this research morphological and functional characteristics of macrophage cell cultures obtained from different localization in intact animal (IA) and animal with the model of type 1 diabetes mellitus (DM1) were investigated. The research was carried out on the macrophage cell cultures isolated from rat liver and peritoneal cavity. The macrophages were stimulated in vitro for 24 and 72 hours with a sodium aminodiglycophthalazidione in vitro. Cells, nucleus, cytoplasm area were measured and nuclear cytoplasmic ratio (NCR) were calculated. The phenotype was determined by expression of CD163 (M2-macrophages) and CD80 (M1-macrophages) receptors. Cytokine activity of macrophages was determined by IL-1α, IL-10 α and TNF-α level. As a result, the ADPH changes morphometric parameters (a decrease in the size of the nucleus and cells, an increase in NCR) and synthetic cell activity (an increase in IL-10 in macrophages of the peritoneal cavity) was observed. ADPH stimulation for 72 hours leads to a decrease in the levels of IL-10, TNF-α and an increase in the level of IL-1α in all cell populations. ADPH does not affect the expression level of markers of M1 and M2 macrophages.

Keywords: liver macrophages, peritoneal cavity macrophages, sodium aminodiglycophthalazidione

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