[P-S-495] IMAGE ANALYSIS OF LYMPHOCYTES CHROMATIN AT THE APOPTOSIS

N.V. Akulich, A.N. Osipenko, S.M. Vishnevskaya, N.G. Kruchinsky. Physiology, Mogilev University, Mogilev, Belarus; Physiology, Mogilev University, Mogilev

Introduction: A large number of stimuli can induce apoptosis. General inducers act on most types of cells include various chemotherapeutic agents, UV, heat, osmotic imbalance, high calcium, and nitrogen oxide. A selective inducers is glucocorticoids.
Some growth factors, for example, PDGF also cause an apoptosis through specific receptors.
Aim is to estimate chromatin of lymphocytes nucleus at induces an apoptosis cause by of caused by different inductors on mechanisms.
Methods: The method of morphodensitometry imagives the possibility to study different cytological objects at a new quality level. Computational analysis of the TV image was performed by means of DiaMorph system combined with the microscopes Zeiss Germany "AxioImager" (x1000, NA 1.3). The cells images thus picked up by high resolution "AxioCamMRc5" camera in a frame buffer of the measuring system. Inductors of an apoptosis Dexamethazon (Dex), TGFbeta1 5 ng/ml, and PDGF-AB 10 ng/ml. An incubation period was 360 min (t= 37^0 C).
The computer image processing reveals inner structure of the object which made is possible allows to research different type of cells at supramolecular level. For ever component, was estimated on the following parameters: quantity chromatin beads of a component, the area of beads components, the area components, perimeter of beads components, perimeter components, integrated absorbency, absorbency and contrast components.
Results: All inductors caused compactness of a chromatin (p=0,01255 Dex; p=0,06345 TGF; p=0,02255 PDGF). More reactive was Dex. Absorbency raised Dex & PDGF, but not TGF. Only Dex and PDGF led to body height of a part of a heterochromatin.
Conclusions: Research has shown, that changes of chromatin at introduction of inducers an apoptosis depend by nature the inducer and time of reaction (initial and effectors mechanisms an apoptosis). Have shown, that Dex, TGF, and PDGF react through different mechanisms.
Akulich NV, Osipenko AN, Vishnevskaya SM, Kruchinsky NG. IMAGE ANALYSIS OF LYMPHOCYTES CHROMATIN AT THE APOPTOSIS. *J Thromb Haemost 2007*; **5** Supplement 2: P-S-495

Date: Sunday, July 8, 2007
Session Info: Poster: Apoptosis
Room: Exhibition Area