ID příspěvku: **67** Typ: **Přednáška**

The usability of measuring membrane mitochondrial potencial by flow cytometry for studies in biodosimetry

pondělí 8. listopadu 2021 14:00 (15 minut)

The purpose of our study was to evaluate membrane mitochondrial potentical measured by flow cytometry in vitro in two cell lines (MOLT-4, RAMOS) and immunophenotypised peripheral blood lymphocytes after gamma irradiation.
The usability of the JC-1 dye was tested on the cell lines and peripheral blood lymphocytes after gamma irradiation in in vitro study for future practical biodosimetric evaluation.
The cell lines derived from different precursor cells and pig lymphocytes are good tool for monitoring of the progress of radiation induced apoptosis, which brings view on the seriousness of injury of cells. We used JC-1 dye by flow cytometry method for determination of changes of mitochondrial membrane potential of MOLT-4, RAMOS cells and lymphocytes to monitor their mitochondrial health. We evaluated the stage of injury these cells by irradiated versus no-irradiated ratio (IVNIR) of relative proportions of polarized cells with red aggregates of JC-1. We observed decreasing of IVNIR with obtained dose (0.5; 1; 2; 4 ; 6; 8 and 10 Gy) and the cultivation time after irradiation (4; 8 and 24 h) in MOLT-4 cells and in the whole peripheral blood lymphocytes and their populations (T cytotoxic cells, CD4 T lymphocytes, NK cells and B cells). The most sensitive to irradiation were CD4 T lymphocytes in the porcine peripheral blood by JC1-dye test. We revealed radioresistency of RAMOS cells.

Přihlásit do soutěže

Ne

Hlavní autor: ŠINKOROVÁ, Zuzana (Univerzita obrany)

Spoluautoři: FILIPOVÁ, Alžběta (FVZ UO); Dr. LIEROVÁ, Anna (Univerzita obrany, Fakulta vojenského zdravotnictví); Dr. ČÍŽKOVÁ , Jana (Univerzita obrany, Fakulta vojenského zdravotnictví); ANDREJSOVÁ, Lenka (Fakulta vojenského zdravotnictví, Univerzita obrany, Hradec Králové); Dr. MILANOVÁ, Marcela (UO Brno, Fakulta vojem)nského zdravotnictví)

Přednášející: ANDREJSOVÁ, Lenka (Fakulta vojenského zdravotnictví, Univerzita obrany, Hradec Králové); ŠINKOROVÁ, Zuzana (Univerzita obrany)

Zařazení sekce: Dozimetrie zevního a vnitřního ozáření

Tematická klasifikace: Dozimetrie zevního a vnitřního ozáření