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EFFECT OF SPERMIDINE ON PC12 CELL APOPTOSIS INDUCED BY ENRICHED URANIUM

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Aim: Our study examined the injurious effects of cellular spermidine on PC12 cells induced by enriched uranium.

Methods: PC12 cells were irradiated with DMEM/F12 agent of enriched uranium, and were calculated the internal exposure doses. The free spermidine of PC12 cells was examined with Densly-cholrade reaction and thin-layer chromatography.

Results: The cells viability treated with enriched uranium were rapidly reduced and DNA chain fragmentation was significantly increased with the prolongation of internal contamination time from enriched uranium. The autoradiographic tracks showed that the radionuclide was distributed in the nucleus predominantly. The apoptotic PC12 cells stained with AO/EB were shown. The free spermidine of PC12 cells could markedly decrease as the internally contaminated time increase.

Conclusions: The findings suggested that PC12 cells exposure to enriched uranium showed apoptosis and the free polyamines content of cells might be one of useful biological index for assessment of cell viability.

Key words: spemidine enriched uranium PC12 cells apoptosis

