

Forced Swim Stress Does Not Induce Structural Chromosomal Aberrations in Rat Bone Marrow

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Abstract : Anything that poses a challenge or a threat to our well-being is a stress. Understanding the genetic material and cellular response of rats threatened with Repeated swimming stress provides insights that can influence human health. The aim of the present study was to assess the genetical damage and cytological changes caused by exposure of the test organism (*Rattus rattus*) to forced swimming stress. For this purpose, animals have been submerged in water path 15 minutes daily for 2 weeks. Following that, we performed a micronuclei (MN) test using MNNCE (Micronucleated normochromatic erythrocytes) and MNPCE (Micronucleated polychromatic erythrocytes), NDI (Nuclear division index) and cytological parameters using NDCI (nuclear division cytotoxicity index), necrotic and apoptotic cells in rat's bone marrow samples. Results showed that there was a slightly but not significant increase in the frequency of micronucleated as well as in cytological parameters in bone marrow cells.

Keywords : submergence stress, micronucleus, NDI, NDCI, toxicity, chromosomal aberrations

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