

## HISTOLOGICAL AND PHYSIOLOGICAL ALTERATIONS INDUCED BY THERMAL NEUTRON FLUXES IN MALE SWISS ALBINO MICE

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This work was performed to investigate the biological effects of different thermal neutron fluxes ( $0.27 \times 10^8$ ,  $0.52 \times 10^8$ ,  $1.089 \times 10^8$ ,  $2.16 \times 10^8$  and  $4.32 \times 10^8$ ) on liver and kidney of male mice using neutron irradiation cell with Ra-Be ( $\alpha, n$ ) 3 mCi neutron source Leybold (55930). Exposed to various fluxes of thermal neutron induced a dramatic alterations in hepatic and renal functions as indicated by biochemical estimation of several parameters (bilirubin, SGT, and alkaline phosphate. Urea, total protein, and albumin) and confirmed by histological examinations

Thermal neutron exposure induces marked increase in the serum activities of total bilirubin, alanine aminotransaminase (ALT or GPT), and alkaline phosphate, whereas, urea, total protein and albumin showed marked decline as compared to control group. The physiological changes induced in thermal neutron fluxes dependent manner.

Histopathological results revealed mild to severe type of necrosis, and degenerative changes in liver and kidney of male mice exposed to thermal neutron fluxes. Also it was found that the histopathological alterations induced in thermal neutron fluxes dependent manner. It was found that exposed to thermal neutron fluxes irradiation plays prominent role in the development of the physiological alterations in male Swiss albino mice

The former up normalities as a result of the sequence events followed interaction of radiation with the former biological mater (liver and kidney) of male Swiss albino mice, which are, physical, physicochemical, chemical, and biological stages.