

Modulation of Phosphatase Levels in Mice Liver by Genistein Treatment against Radiation Exposure

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ABSTRACT

Genistein is a soya isoflavone, which is found naturally in legumes, such as soybeans and chickpeas. The intraperitoneal administration of optimum dose (200 mg/kg body weight) of Genistein before 24 hrs and 15 minutes of irradiation (8 Gy at a dose rate of 1.02 Gy/min) increased the acid phosphatase (by 34.7 +/- 12.39%) and decreased the alkaline phosphatase (by 49.59 +/- 13.82%) in experimental group as compared to control group in liver of Swiss albino mice. Statistically analyzed survival data produced a dose reduction factor (DRF) = 1.24. The results indicate that Genistein against radiation effect may pave way to the formulation of medicine in radiotherapy for normal tissue and possible against radiomimetic drug induced toxicity. Present study also establishes the fact that Genistein may be used as a radioprotector before and after radiation exposure. Hence the possibility of its use as a radioprotectant and radiotherapeutic drug in accidental conditions or nuclear war conditions can not be ruled out.

KEYWORDS

Genistein . Tyrosine kinase inhibitor . Radiation . Liver . Oxidative stress . acid and Alkaline phosphatases

REFERENCES

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