

JOINT EVENT

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Treatment of gamma radiation damage in male rats by using of stem cells and silymarin**Ashraf Z M**

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Therapeutic effect of mesenchymal stem cells transplantation (MSCs) and an antioxidant such as silymarin have been postulated as hepatoprotectors against ionizing radiation induced injury. The present study was undertaken to evaluate the protective effect of MSCs and silymarin to ameliorate damage caused by gamma radiation. Bratton-Marshall Reagent was given by intravenous injection to male rats, one day post gamma irradiation at the dose level of 4 Gy. Rats were orally administrated silymarin at dose (70 mg/kg dissolved in distilled water) before irradiated three days and continued for 21 days post irradiation. After one and three weeks post irradiation results revealed that irradiated animals receiving MSCs and silymarin separately or with each other exhibited a pronounced elevation in liver antioxidant such as glutathione (GSH) superoxide dismutase (SOD), glutathione-S-transferase (GST), total antioxidant capacity (TAC), catalase (CAT) and glucose-6-phosphate dehydrogenase (G-6-PDase) activity accompanied with significant decline in lipid peroxidation and hydrogen peroxide levels in comparing with irradiated rats. Moreover, RAPD-PCR with primers OP-B10 and OP-B14 exhibited different banding patterns in all treated rats compared to untreated control rats after one and three weeks of treatment. In conclusion, treatment with MSCs and silymarin possess a radio protective capacity against ionizing-radiation induced oxidative stress and organ injury.

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