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عنوان مقاله:

Histopathological assessment of protective effects of selenium nanoparticles on rat hepatocytes exposed to Gamma radiation

محل انتشار:

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خلاصه مقاله:

Gamma radiation are used in many medical and technical applications, however, it is one of the most dangerous kinds of radiation and can be harmful to the body. The present study was designed to clarify the protective effects of the selenium supplementation as selenium nanoparticle and selenite selenium in rat liver against Gamma irradiation with different intensities of ۲.۰۰ and ۸.۰۰ Gy. A total number of ۴۵ healthy male Wistar rats were randomly divided into nine groups of five each. The radiation procedure was carried out in the Cobalt ۶۰ equipment in Omid hospital, Urmia. The animals were simultaneously immobilized in a transparent acrylic plate and exposed to different intensities of ۲.۰۰ and ۸.۰۰ Gy radiations on day ۷th and ۱۴th of the experiment. After ۷۲ hr after the last radiation, the animals were euthanized, and blood and liver tissue were collected. Histological analyses revealed the radiation-induced hepatic injury in rats, which included vacuolated cytoplasm, liver necrosis, fibrosis, and vascular lesions followed by a significant increase in alanine transaminase, alanine transaminase, alkaline phosphatase, and Gamma-glutamyl transferase. Selenium nanoparticles bear a more potent antioxidant effect in comparison with selenium selenite and .can effectively protect the liver cell against Gamma radiation at a dose of ۸.۰۰ Gy

کلمات کلیدی:

Gamma radiation, Hepatocyte, Selenium Nanoparticles, Selenite selenium

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