

عنوان مقاله:

Hepato-Renal Dysfunctions Induced by Gold Nanoparticles and Preservative Efficacy of Black Seed Oil

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خلاصه مقاله:

Gold nanoparticles (GNPs) represent the most important applications of nanotechnology in fields of medicine. The study aimed at clarifying their toxic effect, especially upon biochemical parameters related to liver and kidney functions of lab animals. Twenty-four healthy rats were distributed on 4 groups, each containing 6 rats. Control group included rats without any treatment, while GNPs group of mice were under intoxication with gold nanoparticles at a dosage of 50 µl/day for 7 days. As for the GNPs + BS group, intoxicated rats with GNPs were given oil of black seed at a dosage of 10 ml / kg. Finally, BS group included rats were under treatment of 1 ml/ kg of black seed oil. Serum levels of hepato-renal parameters including alanine amino transferase, aspartate amino transferase, alkaline phosphatase, blood urea, creatinine, and uric acid, were measured to detect impaired liver and kidneys functions. Rats treated with GNPs indicated a substantial ($P < 0.05$) increase in all these biomarkers levels contrasted to the group of control. Then, co-administration of black seed oil together with GNPs had a significant effect on reducing hepatorenal functions disorders. Thus, from these results, it can be concluded that the black seed oil has shown a defensive effect against the disturbances caused by GNPs in the liver and kidney functions of rats.

کلمات کلیدی:

hepato-renal functions, serum biomarkers, Gold Nanoparticles

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