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Evaluation of Selenium Nanoparticles and Doxorubicin Effect Against Hepatocellular Carcinoma Rat Model Cytogenetic Toxicity and DNA Damage

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Highlights

- Selenium nanoparticles has important role in repression of hepatocellular carcinoma.
- Treatment with selenium nanoparticles caused decreased in chromosomal aberrations, micronucleus formation as well as decreased DNA damage.
- Treatment with Selenium nanoparticles with Doxorubicin was more effective than that treatment with drug alone.

Abstract:

The present study aimed to demonstrate the potent role of nanoselenium and Doxorubicin in retrogression of genotoxicity induced in hepatocellular carcinoma rat model by studying chromosomal aberration, micronuclei formation, DNA fragmentation as well as comet assay. Male rats hepatocellular carcinoma model were treated wih Se-Nanopartcles, Doxurobicin and the combination of both. The results revealed the protective effect of nanoselenium, Doxorubicin and their combination on bone marrow cytogenetic toxicity by decreasing chromosomal aberrations and micronuclei formation as well as their effects on rat's liver by decreasing DNA damage. Nevertheless, the treatment with nanoselenium either alone or in combination with Doxorubicin was more effective than treatment with doxorubicin alone.