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Effect of nanohypericum (Hypericum perforatum gold nanoparticles) treatment on restraint stress-induced behavioral and biochemical alteration in male albino mice

D. Jaya Prakash, S. ArulKumar, M. Sabesan
aDepartment of Zoology, Faculty of Science, Annamalai University, Annamalai Nagar, Tamilnadu, India

ABSTRACT
Backgorund Hypericum perforatum extract (HPE), is known for its antidepressant effect. Methods In the present study we investigated the effect of H. perforatum gold nanoparticles (NanohypericumHPGNPs) protective role against restraint stress-induced behavioral and biochemical alterations in mice. Animals were immobilized for a period of 6 hrs/day. HPE (200 mg/kg) and nanohypericum (20 mg/kg) were administered 30 minutes before the animals were subjected to acute immobilized stress. Behavioral test parameters for anxiety and spatial memory were assessed followed by biochemical parmeters (lipid peroxidation, super oxide dismutase, catalase, glutathione peroxidase, reduced glutathione, etc.) subsequently. Results The behavior study showed severe anxiety and memory loss compared to unstressed animals. Biochemical analyses revealed an increase in lipid per oxidation, depletion of super oxide dismutase, reduced glutathione, catalase activity and glutathione per oxidase as compared to unstressed animal. Twenty one days of H. perforatum and nanohypericum treatment in a dose of 200 mg/kg and 20 mg/kg, respectively, significantly attenuated restraint stress-induced behavioral and oxidative damage. Conclusion In conclusion nanohypericum prove the modest activity than the HPE.

KEYWORDS
Hypericum perforatum . Nanohypericum . goldnanoparticles . T-maze . mirror chamber . stress

REFERENCES