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Reproductive toxicity associated with diazinon exposure in male rats: The protective effects of Cedrelopsis grevei leave extract

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Pesticides have contributed for many public health hazards in man including infertility. So, the present study aims to assess the protective role of Cedrelopsis grevei leave extract against the incidence of reproductive toxicity resulting from diazinon (DIA) exposure in mature male Wistar rats. Group I served as control. Groups II rats were received 150 mg/kg extracts. Groups III rats were given DIA at a dose of 12.50 mg a.i. kg-1 b.wt., 1/100 LD50. Groups IV rats were simultaneously given the same doses of extract and DIA as in groups II and III, respectively. All the applications were given a single daily dose via oral gavage for 70 days to complete the spermatogenic cycle. The results revealed that exposure to DIA significantly decreased the fertility index, weights of sexual organs (testes, seminal vesicles, epidermis and prostate gland), sperm characteristics (motility and count) as well as serum testosterone level, while increased sperm abnormality. In addition, the testicular tissue level of reduced glutathione (GSH) and the activities of SOD, CAT, GPx and GST enzymes were significantly decreased while increased the level of testicular tissue LPO compared with the control group. The testicular histopathological lesions were characterized by moderate to severe degenerative changes of seminiferous tubules and incomplete arrest of spermatogenesis. Co-administration of the extract to treated-animals alleviates the reproductive toxicity and testicular oxidative damage. In conclusion, the use of Cedrelopsis grevei leave extract appeared to be beneficial in attenuating and improving the testicular damage and reproductive toxicity sustained by insecticide exposure in male rats.

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