

SHC 10. FOR RATS WHICH ARE IMPLEMENTED CADMIUM CHLORIDE EXPOSURE, POLYDATIN AND GRAPE SEED EXTRACTS PROTECTIVE EFFECTS ON TESTIS AND BRAIN TISSUES

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This study is carried out on rats, the polydatin (PD) and grape seed extracts' (GSE) protective effects against to cadmium's (Cd) oxidative damage in brain and testis (transgressing blood-testis and blood-brain barriers) is investigated. In our study, 49 wistar-Albino adult male rats were used. Rats were separated into seven equal groups: Group 1; Control Group (Normal saline was given orally for 30 days.) Group 2; Cd group (5 mg/kg dose of CdCl₂ was dissolved in normal saline and was given orally for 30 days.) Group 3; Group PD (120 mg/kg PD was dissolved in normal saline and was given orally for 30 days.) Group 4; GSE Group (120 mg/kg GSE was dissolved in normal saline and was given orally for 30 days.) Group 5; Cd+PD Group (5 mg/kg dose of CdCl₂ + 120 mg/kg PD were dissolved in normal saline and was given orally for 30 days.) Group 6; Cd+ GSE Group (5 mg/kg dose of CdCl₂ + 120 mg were dissolved in normal saline and were given orally for 30 days.) Group 7; Cd+PD+ GSE Group (5 mg/kg dose of CdCl₂+120 mg/kg PD + 120 mg/kg GSE were dissolved in normal saline and were given orally for 30 days.) At the end of the experimental period, all the rats were decapitated and their brain and testis tissues samples were examined. In Cd implemented rats, in their brain (p <0.05) and in testis (p<0.01), malondialdehyde (MDA) levels statistically increase in significant way, within PD and GSE implemented groups, it decreases /kg GSE was detected. In Cd implemented rats, antioxidant potential values (AOP) decrease in brain and testis, in PD and GSE implemented groups, it increases significantly. (p<0.001) According to the ICP-OES data, it couldn't be determined because it was under the brain measurement levels, in Cd implemented testis groups, there was increase (p<0.001). Consequently, for rats, because of the cadmium exposure, oxidative damage has occurred in brain and testis; against to this damage, both PD and GSE were protective, but PD was more protective than GSE.

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