P-774 - PROTECTIVE EFFECTS OF MIRTAZAPINE ON CISPLATIN-INDUCED OXIDATIVE STRESS IN RAT BRAINS: A BIOCHEMICAL AND GENETIC EVALUATION

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Introduction: Cisplatin treatment is associated with neurotoxicity and it is a limitation to effective anti-cancer treatment as it may lead to dose-reduction. Therefore, effective strategies to reduce the severity of neurotoxicity are intensively being searched for. Oxidative stress might play an important role here. Moreover, several antioxidants have been used successfully for prevention. Interestingly, mirtazapine may be one of promising agents for the avoidance of cisplatin-induced neurotoxicity via its less-known antioxidant properties.
Objectives: We aimed to examine a possible protective effect of mirtazapine against the cisplatin-induced neurotoxicity in rat brains.
Methods: Eighteen rats were divided into 3 groups equally: a control group (CG), an untreated group (UG), and a treated group (TG). The TG was first given 30 mg/kg mirtazapine by gastric gavage while the others received solely distilled water. And then, 10 mg/kg cisplatin was injected intraperitoneally every day for 14 days to the animals in the UG and the TG while the rest of them were given only isotonic saline solution.
Results: While tGSH and NO mean scores were found to be statistically higher in the TG when compared with the UG, MDA and MPO mean scores were statistically lower in the TG when compared with the UG. Similarly, there was a statistical difference both between the UG and the TG for 8-OH GUA.
Conclusions: These findings suggest that mirtazapine might be a cytoprotective agent and this might justify investigating whether cisplatin at the desired doses can be administered concurrently with mirtazapine in the absence of other considerations.

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