



***Zataria multiflora* ameliorates testicular and spermatological damages induced by cisplatin in mice model**

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Background and objectives: Cisplatin (CP), a highly effective antineoplastic drug, causes testicular damage. *Zataria multiflora* Boiss. (ZM), a medicinal plant, has antioxidant and anti-inflammatory properties. The aim of this study was to investigate the effects of ZM against cisplatin-induced testicular toxicity. **Methods:** Thirty-two adult male mice were randomly divided into four groups. The control group received normal saline with oral gavage during 7 days; ZM group received ZM (200 mg/kg) during 7 days by gavage; CP group received CP (10 mg/kg) *i.p.* in 5th day of study; ZM + CP group received ZM during 7 days and CP was injected in 5th day. Sperm parameters (including motility, sperm count, sperm viability rate and morphological sperm abnormalities), biochemical (malondialdehyde (MDA), glutathione (GSH) and protein carbonyl (PC) levels), serum testosterone levels, histological and immunochemistry assays of testis were examined one day after the last receipt of the drug. **Results:** CP treatment caused significant damage via changed of sperm parameters, increased oxidative stress (increased MDA, PC levels and decreased GSH level), histological changes (degeneration, necrosis, arrest of spermatogenesis, congestion and decrease in thickness of the germinal epithelium, diameter of seminiferous tubules and Johnsen's Score), decreased serum testosterone level and increased caspase-3 immunoreactivity. ZM preserved spermatogenesis and mitigated the toxic effects of CP on the testis tissue. In addition, pretreatment with ZM significantly reduced caspase-3 immunoreactivity. **Conclusion:** The findings of this study suggested ZM as a potential antioxidant compound which showed protective effect against cisplatin-induced testicular toxicity.

Keywords: cisplatin, oxidative stress, testicular toxicity, *Zataria multiflora* Boiss.