



Protective role of *Zataria multiflora* on cisplatin-induced acute kidney injury

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Background and objectives: Cisplatin (CP), as an anticancer drug, causes nephrotoxicity. *Zataria multiflora* Boiss. (ZM), a plant which has been used as a herbal medicine for a variety of ailments. Our study aimed to examine the effects of ZM on cisplatin induced nephrotoxicity. **Methods:** Thirty-two male mice were randomly divided into four groups. The control group; ZM group: received ZM (200 mg/kg) during 7 days by gavage; CP group: received CP (10 mg/kg) intraperitoneally in 5th day of study; ZM + CP group. Serum creatinine and urea levels, malondialdehyde (MDA), glutathione (GSH) and protein carbonyl (PC) levels in kidney tissue of mice, histopathological and immunohistochemical assays were examined. **Results:** CP caused significant increase in serum creatinine and urea levels, increased oxidative stress (increased MDA, PC and decreased of GSH) in kidney tissues, histological changes (epithelial cells degeneration, tubular dilation, necrosis, vacuolization, inflammatory cell infiltration, congestion, and protein cast formation in the renal tubules in kidneys), and increased caspase-3 immunoreactivity. ZM improved the damage of CP on the kidney tissue. **Conclusion:** our study revealed that ZM with antioxidant properties showed a pronounced effect in suppression of cisplatin-induced oxidative stress in the kidneys.

Keywords: caspase-3, cisplatin, hepatotoxicity, oxidative stress, *Zataria multiflora* Boiss.