Research in Pharmaceutical Sciences, 2012;7(5)
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Protective effects of the *Morus albaLl.* leaves extracts on cisplatin-induced nephrotoxicity in rat

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Background and Aims: Cisplastin (CP) as an important anti-tumor drug causes nephrotoxicity which limits its clinical application. Previous studies indicated that oxidative stress and renin-angiotensin system (RAS) are responsible for this toxicity. Since flavonoids have high antioxidant activity and probable role in the inhibition of RAS, this study was designed to investigate the protective effect of hydroalcoholic extract and flavonoid fraction of Morus alba leaves on cisplatin-induced nephrotoxicity in rat.
Methods: Extracts of Morus alba leaves were prepared and analyzed Phytochemically. Male rats (160-200 g) were used in this study (n= 7-9). Normal group received 0.2 ml saline intraperitoneally (i.p) once daily for ten days. Control animals received cisplatin on third day and saline in the remaining days. Other groups received either hydroalcoholic extract (200, 400 and 600 mg/kg, i.p.) or flavonoid fraction (50, 100 and 200 mg/kg, i.p.) for two days before cisplatin administration and thereafter until tenth day. Serum concentrations of blood urea nitrogen (BUN), creatinine (Cr) and nitric oxide were measured using standard methods. Also both kidneys were removed, weighed and the left one was prepared for pathological study.
Results: The serum levels of BUN and Cr increased in animals received CP. Hydroalcoholic extract was ineffective in reversing these alterations but flavonoid fraction (50 and 100 mg/kg) significantly inhibited CP-induced increases of BUN and Cr. None of treatments could affect serum concentration of nitric oxide. Also flavonoid fraction could prevent CP-induced pathological damage of the kidney.
Conclusions: It seems that concurrent use of flavonoid fraction of Morus alba with CP can protect from CP-induced nephrotoxicity.

Keywords: *Morus alba*; Cisplatin; Nephrotoxicity; Flavonoid fraction