

عنوان مقاله:

Kidney stone formation and antioxidant effects of Cynodon dactylon decoction in male Wistar rats

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خلاصه مقاله:

Objectives: The antioxidant capacity impairs in kidney and urinary bladder of animals with stone disease. Herbal medicine can improve the antioxidant condition of renal tissue. Cynodon dactylon (C. dactylon) is a medicinal plant with antioxidative and diuretic properties and different preparations of this plant have shown promising effects in stone disease. Assessment of the whole plant decoction to prevent kidney stone disease as well as its antioxidant effects was the aim of this paper.Materials and Methods: Fifty male Wistar rats were randomly divided into 5 experimental groups (n=10). One group was left without treatment and four groups received ethylene glycol (1% v/v) in drinking water for 6 weeks. Three doses of Cynodon dactylon aqueous decoction (12.5, 50 and 200 mg/kg BW) were added to the drinking water of groups 3-5. Finally, water intake, 24-hour urine volume, MDA, total thiol concentration and FRAP value were measured in the serum and kidney tissues. The CaOx depositions were evaluated by hematoxylin and eosin staining.Results: Compared to the ethylene glycol-treated group, 200 mg/kg C. dactylon, lowered stone incidents, decreased urine volume, increased FRAP/g Cr (43%) and thiol content (p<0.05) with no significant alteration of water intake, MDA decreased significantly compared to C. dactylon 12.5 (p<0.01). Kidney weight increased and body weight decreased in ethylene glycol-treated group compared to the control group (p<0.05). Conclusion: A minimum dose of 200 mg/kg C. dactylon reduced stone formation and simultaneously increased total antioxidant power of serum and preserved MDA content and water

کلمات کلیدی:

Cynodon dactylon decoction, FRAP, MDA, nephrolithiasis, Antioxidant, Ethylene glycol

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