

## The protective effect of celery ethanol extract on oxidative stress in chronic kidney disease rat model

<b>Title</b>	The protective effect of celery ethanol extract on oxidative stress in chronic kidney disease rat model
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<b>Abstract</b>	<p>BackgroundChronic kidney disease (CKD) is a serious health problem in which oxidative stress plays an important role. Oxidative stress is an imbalance of reactive oxygen species (ROS) production and antioxidant defense, where antioxidants have the potential to inhibit CKD progression. Celery contains several substances that have an antioxidant effect. This study aimed to evaluate the administration of celery ethanol extract in the prevention of the progressive damage in CKD caused by oxidative stress in male rats. MethodsTwenty male Sprague-Dawley rats were randomly divided into 5 groups: sham operation (SO, n=4), subtotal nephrectomy (SN, n=4), SN+celery ethanol extract 200 mg/kg BW (SN+S1, n=4), SN+celery ethanol extract 250 mg/kg BW (SN+S2, n=4), SN+celery ethanol extract 300 mg/kg BW (SN+S3, n=4). The celery ethanol extract was given for 14 days before induction of CKD and 21 days after induction of the CKD rat model. Serum creatinine, malondialdehyde (MDA), superoxide dismutase (SOD) and glutathione (GSH) were examined in this study. Data were analyzed by One way ANOVA followed by LSD test for creatinine, MDA, SOD, and Kruskal Wallis test for GSH. ResultsThere were significant between-group differences in serum creatinine, SOD, and MDA (<math>p &lt; 0.05</math>), but not in GSH (<math>p &gt; 0.05</math>). The administration of celery ethanol extract at 250 mg/kg BW was the most effective in preventing an increase in MDA and a decrease in SOD and GSH. ConclusionCelery ethanol extract has the potential to prevent oxidative stress in the CKD rat model.</p>
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