

ABSTRAK

Ginjal merupakan organ penting yang berfungsi menjaga komposisi darah dengan mencegah menumpuknya limbah dan mengendalikan keseimbangan cairan dalam tubuh. Paparan hidrokarbon memainkan peran penting dalam pengembangan disfungsi ginjal terutama benzena. Daun salam mengandung kandungan metabolit sekunder yang bersifat antioksidan di dalamnya seperti fenolat, alkaloid, saponin, steroid, terpenoid tannin pada daun salam mampu mendetoksifikasi tubuh termasuk benzena. Pada penelitian ini bertujuan untuk mengevaluasi kemampuan dari ekstrak etanol daun salam untuk mencegah kerusakan ginjal akibat paparan benzena. Penelitian ini dibagi menjadi 11 kelompok yaitu kelompok normal, benzene 3, benzene 6, vitamin C 3, vitamin C 6, EEDS 400 3, EEDS 400 6, EEDS 600 3, EEDS 600 6, EEDS 800 3 dan EEDS 800 6. Ekstrak etanol daun salam dan vitamin C diberikan selama 21 hari. Pada hari ke 22 tikus dibedah kemudian darah diambil dan disentrifus 5000 RPM selama 15 menit kemudian supernatant diambil dan dilakukan analisa parameter serum Urea, Creatinine, Kalsium, Asam urat, NGAL dan urin NGAL. Hasil penelitian menunjukkan bahwa ekstrak etanol daun salam dosis 400, 600, dan 800 mg/kgbb dapat menurunkan kadar serum Urea, Creatinine, Asam urat, NGAL dan urin NGAL, dan meningkatkan kadar serum Kalsium yang berbeda signifikan secara statistik dengan kelompok yang hanya diberikan benzena dan benzena 6 ($p < 0,05$). Ekstrak etanol daun salam juga mengurangi kerusakan histologi ginjal. Dapat disimpulkan bahwa ekstrak etanol daun salam memiliki aktivitas nefroprotektif.

Kata Kunci: benzene, ekstrak etanol daun salam, nefroprotektif

ABSTRACT

Kidneys are important organs that function to maintain blood composition by preventing the accumulation of waste and controlling the balance of fluids in the body. Hydrocarbon exposure plays an important role in the development of kidney dysfunction especially benzene. Bay leaves contain secondary metabolites which are antioxidants in them such as phenolics, alkaloids, saponins, steroids, terpenoids, tannins, which can detoxify the body, including benzene. This study aims to evaluate the ability of bay leaf ethanol extract to prevent kidney damage due to benzene exposure. This study was divided into 11 groups, namely the normal group, benzene 3, benzene 6, vitamin C 3, vitamin C 6, EEDS 400 3, EEDS 400 6, EEDS 600 3, EEDS 600 6, EEDS 800 3, EEDS 800 6. Ethanol extract of bay leaves and vitamin C was given for 21 days. On the 22nd day, the rats were operated on, then blood was drawn and centrifuged at 5000 RPM for 15 minutes, then the supernatant was taken and analyzed for parameters of serum Urea, Creatinine, Calcium, Uric acid, NGAL and urine NGAL. The results showed that the ethanol extract of bay leaves at doses of 400, 600 and 800 mg/kg BW could reduce levels of serum Urea, Creatinine, Uric acid, NGAL and urine NGAL and increases level of serum Calcium which were statistically significant different from the groups that were only given benzene 3 and benzene 6 ($p < 0.05$). Ethanol extract of bay leaves also reduce the kidney histological damage. It can be concluded that the ethanol extract of bay leaves has nephroprotective activity.

Keywords: benzene, bay leaf ethanol extract, nephroprotective