

ABSTRAK

Kanker adalah salah satu *Noncommunicable disease* penyebab kematian utama diseluruh dunia. Pengobatan kanker mengalami kemajuan akan tetapi memiliki efek samping antara lain efek nefrotoksik. Toksisitas doksorubisin telah banyak diketahui yang kemungkinan diperantai oleh konversi metabolik doksorubisin menjadi doksorubisinol. Mekanisme utama toksisitas doksorubisinol terjadi karena interaksinya dengan besi dan pembentukan ROS yang merusak makromolekul sel. Salah satu tanaman yang banyak digunakan masyarakat untuk mencegah dan menangani berbagai macam penyakit adalah daun salam. Daun salam mengandung metabolit sekunder yang bersifat antioksidan yang diperlukan untuk melindungi sel-sel tubuh dari kerusakan oksidatif, mencegah berbagai penyakit degeneratif seperti kanker, penyakit kardiovaskular. Penelitian ini bertujuan untuk mengetahui kandungan senyawa kimia EEDS yang bersifat nefroprotektif secara skrining fitokimia dan GC-MS, karakterisasi EEDS serta efektifitas nefroprotektif EEDS pada tikus yang diinduksi doksorubisin berdasarkan kadar asam urat, ureum dan kreatinin. Penelitian ini bersifat eksperimental laboratorium dengan menggunakan tikus sebagai hewan coba. Kelompok perlakuan terdiri dari CMC-Na 0,5%, Nature E, EEDS dosis 100 mg/kgBB, 300 mg/kgBB dan 500 mg/kgBB diikuti dengan pemberian doksorubisin. Hasil penelitian menunjukkan secara fitokimia EEDS mengandung senyawa kimia yang bersifat nefroprotektif yaitu flavonoid, steroid/triterpenoid, saponin dan secara GC-MS mengandung senyawa neophytadiene, squalane, stigmasterol, fitol, β -Tokoferol, dan asam heksadekanoat. EEDS memiliki nilai kadar sari larut air 21,64%, kadar abu total 1,79%, kadar air 9,98%. Kadar sari larut etanol 45,38% dan kadar abu tidak larut asam 0,39%. EEDS dosis 100 mg/kgBB, 300 mg/kgBB dan 500 mg/kgBB dapat menurunkan kadar asam urat, ureum dan kreatinin serta dapat gambaran histopatologi ginjal tikus yang diinduksi doksorubisin dengan dosis efektif yaitu 500 mg/kgBB. Dapat disimpulkan ekstrak etanol daun salam memiliki efektifitas nefroprotektif.

Kata Kunci: Nefroprotektif, Asam urat, Ureum, Doksorubisin, Ekstrak etanol daun salam

ABSTRACT

Cancer is one of *the leading noncommunicable diseases* leading to death worldwide. Cancer treatment has progressed but has side effects including nephrotoxic effects. The toxicity of doksorubisin has been widely known which is likely to be chained by the metabolic conversion of doxorubicin to doxorubicinol. The main mechanism of doxorubicinol toxicity occurs due to

its interaction with iron and the formation of ROS that damages cell macromolecules. One of the plants that are widely used by the community to deal with various diseases and prevention is bay leaves. Bay leaves contain secondary metabolites that are antioxidant in nature. Antioxidants are needed to protect the body's cells from oxidative damage, preventing various degenerative diseases such as cancer, cardiovascular disease. The study aimed to determine the content of nephroprotective EEDS chemical compounds in phytochemical and GC-MS screening, EEDS characterization and EEDS nephroprotective activity in doxorubicin-induced mice based on uric acid, ureum and creatine levels. The study was experimentally laboratory using mice as test animals. The treatment group consisted of CMC-Na 0.5%, Nature E, EEDS doses of 100 mg/kgBB, 300 mg/kgBB and 500 mg/kgBB followed by administration of doxorubicin. The results showed phytochemicalally EEDS contains chemical compounds that are nephroprotective namely flavonoids, steroids / triterpenoids, saponins and GC-MS contains neophytadiene, squalane, stigmasterol, phytool, β -Tocopherol, and hexadekanoic acid. EEDS has a water soluble sari content value of 21.64%, total ash content of 1.79%, water content of 9.98%. Ethanol soluble juice levels were 45.38% and acid insoluble ash levels were 0.39%. EEDS doses of 100 mg/kgBB, 300 mg/kgBB and 500 mg/kgBB can lower uric acid, ureum and cretinine levels and can picture the histopathology of doxorubicin-induced mouse kidneys with an effective dose of 500 mg/kgBB. It can be concluded that ethanol extract of bay leaves has nephroprotective activity.

Keywords: Nephroprotective, Gout, Ureum, Doxorubisin, Ethanol extract bay leaves