

ABSTRACT

THE EFFECT OF 96% ETHANOL EXTRACT OF BINAHONG LEAVES (*Anredera cordifolia*) ON HEPATIC MALONDIALDEHYDE (MDA) LEVELS IN MALE SPRAGUE DAWLEY RATS WITH DIET-INDUCED HYPERCHOLESTEROLEMIC

By

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Background: Hypercholesterolemia increases the formation of free radicals, which triggers oxidative stress in the liver, characterized by elevated levels of malondialdehyde (MDA). Binahong leaves (*Anredera cordifolia*) contain antioxidant compounds that have the potential to suppress oxidative damage. This study aims to assess the effect of 96% ethanol extract of binahong leaves on liver MDA levels in male Sprague Dawley rats induced by a high-fat diet.

Methods: This study used a true experimental design with a posttest-only control group method. A total of 30 mice were acclimated and fed a high-fat diet for 4 weeks, then divided into normal, negative control, positive control (vitamin C 9 mg/kgBW), and three treatment groups receiving binahong extract at 50, 100, and 150 mg/kgBW. Hepatic MDA levels were measured using the Thiobarbituric Acid Reactive Substance (TBARS) method. Data were analyzed using One-Way ANOVA and Post-Hoc LSD tests.

Results: The study showed the highest MDA levels in the negative control group and the lowest in the treatment group at a dose of 150 mg/kgBW. Administration of binahong leaf ethanol extract decreased MDA levels in a dose-dependent manner, with a significant decrease at 150 mg/kgBW ($p < 0.05$) and approaching the levels of the positive control group.

Conclusions: The 96% ethanol extract of binahong leaves is effective in reducing liver MDA levels in hypercholesterolemic rats, with a dose of 150 mg/kg body weight being the optimal for inhibiting oxidative stress. Further research is suggested to conduct quantitative phytochemical analysis and add lipid profile parameters.

Keywords: *Anredera cordifolia*, antioxidant, dyslipidemia, liver, MDA, oxidative stress

ABSTRAK

PENGARUH PEMBERIAN EKSTRAK ETANOL 96% DAUN BINAHONG (*Anredera cordifolia*) TERHADAP KADAR MALONDIALDEHID (MDA) HEPAR TIKUS PUTIH (*Sprague dawley*) JANTAN KONDISI HIPERKOLESTEROLEMIA

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Latar Belakang: Hiperkolesterolemia meningkatkan pembentukan radikal bebas yang memicu stres oksidatif pada hepar, ditandai dengan peningkatan kadar malondialdehid (MDA). Daun binahong (*Anredera cordifolia*) mengandung senyawa antioksidan yang berpotensi menekan kerusakan oksidatif. Penelitian ini bertujuan menilai pengaruh ekstrak etanol 96% daun binahong terhadap kadar MDA hepar tikus putih jantan galur *Sprague Dawley* yang diinduksi diet tinggi lemak.

Metode: Penelitian ini menggunakan desain *true experimental* dengan metode *posttest only control group*. Sebanyak 30 ekor tikus diaklimatisasi dan diinduksi diet tinggi lemak selama empat minggu, kemudian dibagi menjadi kelompok normal, kontrol negatif, kontrol positif (vitamin C 9 mg/kgBB), serta tiga kelompok perlakuan yang diberi ekstrak binahong dosis 50, 100, dan 150 mg/kgBB. Kadar MDA hepar diukur menggunakan metode *Thiobarbituric Acid Reactive Substance (TBARS)*. Data dianalisis dengan *One-Way ANOVA* dan uji lanjut *Post-Hoc LSD*.

Hasil: Hasil penelitian menunjukkan kadar MDA tertinggi pada kelompok kontrol negatif dan terendah pada kelompok perlakuan dosis 150 mg/kgBB. Pemberian ekstrak etanol daun binahong menurunkan kadar MDA secara dosis-dependen, dengan penurunan bermakna pada dosis 150 mg/kgBB ($p < 0,05$) dan mendekati kelompok kontrol positif.

Kesimpulan: Ekstrak etanol 96% daun binahong efektif menurunkan kadar MDA hepar tikus hiperkolesterolemia, dengan dosis 150 mg/kgBB sebagai dosis paling optimal dalam menghambat stres oksidatif. Penelitian selanjutnya disarankan melakukan analisis fitokimia kuantitatif dan menambahkan parameter profil lipid.

Kata Kunci: *Anredera cordifolia*, antioksidan, hiperkolesterolemia, hepar, MDA, stres oksidatif.