SKRIPSI SARJANA FARMASI

PENGARUH LAMA PEMBERIAN OBAT ANTITUBERKULOSIS KOMBINASI TERHADAP KADAR SGPT DAN ALP MENCIT PUTIH JANTAN *(Mus musculus* L.*)*

Oleh:

ZARIMA QHOTIAH

NIM: 1811013033

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ABSTRAK

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Oleh:

Zarima Qhotiah

NIM : 1811013033

(Program Studi Sarjana Farmasi)

Tuberkulosis merupakan penyakit menular yang disebabkan oleh bakteri *mycobacterium tuberculosis*. Mengonsumsi obat antituberkulosis yang cukup lama dapat menyebabkan beberapa efek samping salah satu efek samping yang berat yaitu hepatotoksisitas. Hepatotoksisitas merupakan keadaan dimana sel-sel hati mengalami kerusakan karena zat-zat kimia yang bersifat toksik khususnya pada obat isoniazid, rifampisin, dan pirazinamid. Penelitian ini bertujuan untuk mengetahui pengaruh lama pemberian obat antituberkulosis lini pertama yaitu isoniazid, rifampisin, pirazinamid, dan etambutol terhadap aktivitas *Serum Glutamic-pyruvic Transaminase* (SGPT) dan *Alkaline Phosphatase* (ALP) pada mencit putih jantan *Mus musculus* L. Mencit sebanyak 12 ekor dibagi menjadi 3 kelompok secara acak; kelompok kontrol diberi Na cmc 0,5%, kelompok I diberi obat antituberkulosis selama 7 hari, kelompok II diberi obat antituberkulosis selama 10 hari, kelompok III diberi obat antituberkulosis selama 14 hari. Setelah 7, 10, dan 14 hari perlakuan hewan uji dikorbankan dan sampel darah disentrifus untuk memperoleh serum, kemudian masing-masing kelompok ditentukan aktivitas enzim SGPT dan ALP. Hasil analisa statistik menggunaka*n One-way anova* dan dilanjutkan dengan uji *Duncan* menunjukkan perbedaan bermakna aktivitas enzim SGPT dan ALP antar kelompok perlakuan ($p<0,05$). Terdapat hubungan yang signifikan antara SGPT dan ALP pada mencit putih jantan terhadap variasi lama pemberian obat antituberkulosis HRZE (Isoniazid, Rifampisin, Pirazinamid, dan Etambutol) dengan kombinasi dosis tetap. Kesimpulan dalam penelitian ini adalah sebagian besar sampel dengan dosis terapi mengalami hepatotoksisitas obat antituberkulosis termasuk dalam derajat ringan.

Kata Kunci: Tuberkulosis, Hepatotoksik, Obat Antituberkulosis, SGPT, ALP

ABSTRACT

THE EFFECT OF LONG ADMINISTRATION OF COMBINATION ANTITUBERCULOSIS DRUG ON SGPT AND ALP LEVELS OF MALE WHITE MIICE *(Mus musculus* L*)*

By

Zarima Qhotiah

Student ID Number: 1811013033

(Bachelor of Pharmacy)

Tuberculosis is an infectious disease caused by the bacterium Mycobacterium tuberculosis. Taking antituberculosis drugs for a long time can cause several side effects, one of which is severe side effects, namely hepatotoxicity. Hepatotoxicity is a condition in which liver cells are damaged by toxic chemicals, especially isoniazid, rifampin, and pyrazinamide. This study aims to determine the effect of the duration of first-line antituberculosis drugs, namely isoniazid, rifampin, pyrazinamide, and ethambutol on the activity of Serum Glutamic-pyruvic Transaminase (SGPT) and Alkaline Phosphatase (ALP) in white male Mus musculus L mice. into 3 groups randomly; the control group was given 0.5% Na cmc, group I was given antituberculosis drugs for 7 days, group II was given antituberculosis drugs for 10 days, group III was given antituberculosis drugs for 14 days. After 7, 10, and 14 days of treatment, the test animals were sacrificed and the blood samples were centrifuged to obtain serum, then each group was determined for the activity of SGPT and ALP enzymes. The results of statistical analysis using One-way ANOVA and followed by Duncan's test showed significant differences in SGPT and ALP enzyme activities between treatment groups ($p<0.05$). There is a significant relationship between SGPT and ALP in male white mice on the variation in the duration of administration of antituberculosis drugs HRZE (Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol) with a fixed dose combination. The conclusion in this study is that most of the samples with therapeutic doses experienced mild degree of hepatotoxicity of antituberculosis drugs.

Keywords: Tuberculosis, Hepatotoxic, Antituberculosis Drugs, SGPT, ALP