

Nur Khoirunnisa, 2019, **Pengaruh Aktivitas Antioksidan Kurkumin Terhadap Kerusakan Badan Malphigi dan Tubulus Proksimal Ginjal Mencit (*Mus musculus*) yang Dipapar Timbal**, skripsi ini di bawah bimbingan Sugiharto, S. Si., M. Si. dan Prof. Win Darmanto, Ph.D. Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui aktivitas antioksidan kurkumin dalam mengurangi kerusakan badan malphigi dan sel-sel tubulus proksimal ginjal mencit (*Mus musculus*) yang dipapar timbal. Hewan coba yang digunakan sebanyak 25 ekor mencit jantan galur BALB/c. Hewan coba dibagi menjadi 5 kelompok yaitu K (Kontrol), P1 (pemberian Pb dosis 75 mg/kg BB), P2 (pemberian Pb dosis 150 mg/kg BB), P3 (pemberian Pb dosis 75 mg/kg BB + kurkumin 20 ppm), dan P4 (pemberian Pb dosis 150 mg/kg BB + kurkumin 20 ppm) yang masing-masing terdiri dari 5 ekor mencit dalam satu kelompok. Pemberian timbal (Pb) dan kurkumin pada mencit dilakukan secara peroral. Setelah itu mencit dibedah untuk diambil organ ginjal yang digunakan untuk pembuatan preparat histologi. Pengamatan histologi ginjal menggunakan mikroskop perbesaran 400x. Untuk mengamati kerusakan badan malphigi dan mengukur diameter glomerulus dan kapsula bowman beserta rasio dilakukan dengan bantuan mikrometer pada 10 glomerulus tiap preparat. Sedangkan untuk pengamatan kerusakan sel tubulus proksimal menggunakan graticule, tiap preparat dibagi dalam tiga zona lapang pandang, bagian yang diamati adalah tubulus proksimal. Data kemudian dianalisis secara statistik dengan nilai $p=0,05$. Hasil penelitian ini menunjukkan bahwa pemberian kurkumin hanya dapat mengurangi kerusakan pada badan malphigi secara signifikan berupa hipertrofi glomerulus pada kelompok P4. Namun kurkumin dapat mengurangi kerusakan pada sel tubulus proksimal ginjal secara signifikan.

Kata Kunci: Badan malphigi, kurkumin, ginjal, sel tubulus proksimal, timbal (Pb)

Nur Khoirunnisa, 2019, **The Effect of Curcumin Antioxidant Activity to Renal Corpuscle and Proximal Tubules Cells Damage of Mice (*Mus musculus*) Induced by Lead**, this thesis was under guidance by Sugiharto, S. Si., M. Si. and Prof. Win Darmanto, Ph.D. Department of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

ABSTRACT

This study aims to determine the antioxidant activity of curcumin in reducing renal corpuscle and proximal tubular cells damage of lead-exposed mice (*Mus musculus*) kidneys. The experimental animals used were 25 male BALB / c strain mice. Experimental animals were divided into 5 groups, namely K (Control), P1 (Pb dose 75 mg / kg BB), P2 (Pb dose 150 mg / kg BB), P3 (Pb dose 75 mg / kg BB + curcumin 20 ppm), and P4 (Pb dose of 150 mg / kg BB + curcumin 20 ppm) which each consisted of 5 mice in one group. Giving lead (Pb) and curcumin in mice is done orally. After that the mice were dissected to take kidney organs which were used to make histological preparations. Observation of renal histology using a microscope 400x magnification. To observe renal corpuscle damage and measure the glomerular diameter and bowman capsule along with the ratio carried out with the aid of a micrometer at 10 glomeruli each preparation. As for observing the damage of proximal tubular cells using graticule, each preparation is divided into three visual field zones, the part observed is the proximal tubule. The data were then analyzed statistically with a value of $p = 0.05$. The results of this study indicate that administration of curcumin can only significantly reduce damage to the malphigi body in the form of glomerular hypertrophy in the P4 group. But curcumin can reduce damage in the form of the cell in the proximal renal tubular cells significantly.

Keywords: curcumin, kidney, lead (Pb), proximal renal tubular cells, renal corpuscle