

Fitra Jajar Ariati. 2020. **Pengaruh Induksi Logam Berat Timbal Asetat terhadap Kadar Malondialdehid Serum dan Jaringan Otak Mencit (*Mus Musculus*)**. Skripsi ini dibawah bimbingan Prof. Win Darmanto, M.Si., Ph.D dan Prof. Dr. Sri Puji Astuti Wahyuningsih, M.Si., Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui toksisitas logam berat timbal asetat yang terfokus pada pengaruh terhadap berat badan mencit (*Mus musculus*) serta peningkatan dan perbedaan kadar malondialdehid (MDA) serum dan jaringan otak yang diamati setelah 24, 48, dan 96 jam. Hewan coba yang digunakan sebanyak 24 ekor mencit betina galur Balb/C yang dibagi menjadi empat kelompok: K (kontrol dengan akuades), P1 (induksi timbal asetat selama 14 hari yang diamati setelah 24 jam), P2 (induksi timbal asetat selama 14 hari yang diamati setelah 48 jam), dan P3 (induksi timbal asetat selama 14 hari yang diamati setelah 96 jam). Pengukuran berat badan dilakukan sebelum perlakuan dan induksi timbal asetat dilakukan secara intraperitoneal dengan dosis 100 mg/kg BB per hari selama 14 hari. Uji kadar malondialdehid dilakukan dengan pengukuran OD menggunakan spektrofotometer dengan panjang gelombang 532 nm. Data kemudian dianalisis secara statistik dengan nilai $p = 0,05$. Hasil penelitian menunjukkan perbedaan yang tidak signifikan pada berat badan mencit sehingga dapat dinyatakan tidak terdapat pengaruh induksi timbal asetat terhadap berat badan mencit. Kadar MDA serum tertinggi terdapat pada kelompok P2: $57,32 \pm 21,42$ nmol/mL, sedangkan kadar MDA serum terendah terdapat pada kelompok P3: $15,70 \pm 4,58$ nmol/mL. Kadar MDA jaringan otak tertinggi terdapat pada kelompok P2: $35,95 \pm 11,31$ nmol/mL, sedangkan kadar MDA jaringan otak terendah terdapat pada kelompok P3: $12,96 \pm 3,49$ nmol/mL. Induksi timbal asetat selama 14 hari dengan dosis 100 mg/kg BB menunjukkan tidak terdapat pengaruh terhadap berat badan mencit, tetapi menunjukkan perbedaan kadar MDA setelah 24, 48, dan 96 jam.

Kata kunci: timbal asetat, kadar malondialdehid, jaringan otak, serum

Fitra Jajar Ariati. 2020. **The Effect of Lead Acetate Induction on The Levels of Malondialdehyde Serum and Brain Tissue of Mice (*Mus Musculus*)**. This research in guidanced by Prof. Win Darmanto, M.Si., Ph.D dan Prof. Dr. Sri Puji Astuti Wahyuningsih, M.Si., Departement of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

ABSTRACT

This research was designed to determine the toxicity of heavy metal lead acetate which is focused on the effect on body weight of mice (*Mus musculus*) and the increase and difference levels of malondialdehyde (MDA) serum and brain tissues observed after 24, 48, and 96 hours. The experimental animal were used 24 strain female Balb/C mice were devided into four groups, K (control with aquades), P1 (induction of lead acetate for 14 days was observed after 24 hours), P2 (induction of lead acetate for 14 days was observed after 48 hours), and P3 (induction of lead acetate for 14 days was observed after 96 hours). Body weight of mice was measured before treatment and induction of lead acetate is conducted by intraperitoneal injection with dose of 100 mg/kg BW daily for 14 consecutive days. The levels of MDA was measuring OD used spectrofotometer with a wavelength of 532 nm. Data was analyzed statistically by $p = 0,05$. The results showed there was no significant differences in body weight of mice so there was no effect of lead acetate induction on body weight of mice. The highest MDA levels of serum were P2: 57.32 ± 21.42 nmol/mL, and lowest MDA levels of serum were 15.70 ± 4.58 nmol/mL. The highest MDA levels of brain tissues were P2: 35.95 ± 11.31 nmol/mL, and lowest MDA levels of brain tissues were 12.96 ± 3.49 nmol/mL. Induction of lead acetate with dose of 100 mg/kg BW for 14 days showed there was no significant effect on body weight of mice, but showed there was differences on MDA levels after 24, 48, and 96 hours.

Keywords: lead acetate, malondialdehyde levels, brain tissues, serum.