

Pengaruh Minyak Bekatul (Rice Bran Oil) terhadap Kadar ALT (Alanine Transaminase) Jaringan Hati pada Tikus Wistar yang Diinduksi Karbon Tetraklorida (CCl₄) = The Effect of Rice Bran oil on ALT (Alanine Transaminase) Levels in Wistar Rat Liver Tissue Induced by Carbon Tetrachloride (CCl₄)

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Abstrak

Latar belakang: Bekatul merupakan bagian dari padi yang mengandung sumber antioksidan bermanfaat dalam perlindungan dari radikal bebas. Radikal bebas sendiri merupakan senyawa yang dapat menyebabkan stress oksidatif dan kerusakan pada organ tubuh. Terlepas akan manfaatnya, bekatul seringkali dibuang dalam proses penggilingan padi. Penelitian ini bertujuan untuk mengetahui potensi perlindungan minyak bekatul pada kerusakan jaringan hati yang diinduksi oleh CCl₄ melalui pengukuran ALT jaringan hati tikus. Metode: Sebanyak 24 tikus wistar jantan dibagi acak dalam 6 kelompok, yaitu kelompok kontrol, kelompok preventif yang diberikan minyak bekatul dosis 1 sebesar 0.5mL lalu diberikan CCl₄ 0.55g/KgBB, kelompok preventif yang diberikan minyak bekatul dosis 2 sebesar 1.5mL lalu diberikan CCl₄ 0.55g/KgBB, kelompok kontrol positif yang hanya diinduksi CCl₄, kelompok kuratif yang diberikan CCl₄ 0.55g/KgBB lalu diberikan minyak bekatul dosis 1 sebesar 0.5mL, kelompok kuratif yang diberikan CCl₄ 0.55g/KgBB kemudian diberikan minyak bekatul dosis 2 sebesar 1.5mL. Pengukuran ALT dilakukan menggunakan Kit dengan sampel jaringan hati tersimpan.

Hasil: Kelompok kontrol positif memiliki kadar ALT terendah. Terdapat adanya peningkatan kadar ALT pada kelompok tikus preventif dan kuratif dibandingkan dengan kelompok kontrol positif, walaupun tidak signifikan.

Kesimpulan: Minyak bekatul dosis 0.5mL dan 1.5mL pada kelompok preventif dan kuratif mampu meningkatkan kadar ALT dibandingkan kelompok kontrol positif walaupun tidak bermakna secara statistic. Introduction: Bran is part of rice that contains antioxidants that are useful in protecting against free radicals. Free radicals are molecules that can lead to oxidative stress and organ damage. Despite its advantages, bran is frequently discarded during the milling process. The purpose of this study is to determine the potential protection of rice bran oil against CCl₄-induced liver tissue damage by measuring rat hepatic tissue ALT

Method: Total of 24 wistar rats were randomly into 6 groups, namely the control group, the preventive group which was given the first dose of 0.5mL rice bran oil and then CCl₄ 0.55 g/KgBW, the preventive group which was given the second dose of 1.5mL rice bran oil and then CCl₄ 0.55g/KgBW, the positive control group which was only induced by CCl₄, the curative group which was given CCl₄ 0.55g/KgBW and then the first dose of 0.5mL rice bran oil, the curative group which was given CCl₄ 0.55g/KgBW and then given a second dose of 1.5mL rice bran oil. ALT measurements were then performed using the Kit with the stored liver tissue samples

Result: The positive control group had the lowest ALT levels compared to the other groups. There was an increase in ALT levels in both the preventive and curative groups compared to the positive control group, although this was not statistically significant.

Conclusion: Rice bran oil doses of 0.5mL and 1.5mL in the preventive and curative groups were able to increase ALT levels compared to the positive control group although not statistically significant