

PENGARUH PEMBERIAN BARLEY (*Hordeum Vulgare*) TERHADAP GAMBARAN HISTOPATOLOGI HEPAR TIKUS WISTAR JANTAN YANG DIINDUKSI ALOKSAN

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ABSTRAK

Penelitian ini mengevaluasi efek pemberian barley (*Hordeum vulgare*) terhadap histopatologi hepar tikus wistar jantan yang diinduksi aloksan. Hiperglikemia yang diinduksi aloksan menyebabkan stres oksidatif yang merusak sel hepatosit. Barley mengandung β -glucan dan asam fenolat yang dapat menurunkan hiperglikemia dan stres oksidatif. Penelitian ini menggunakan desain *true experimental* dengan rancangan *post-test only control group*. Sebanyak 36 tikus dibagi menjadi enam kelompok: normal, kontrol negatif (aloksan), kontrol positif (metformin), dan tiga kelompok perlakuan yang menerima barley dengan berbagai kombinasi (barley, aloksan+barley, aloksan+ pakan+barley). Barley diberikan selama 28 hari, dan kadar glukosa darah puasa diukur pada hari ke-17, 24, 31, dan 37. Analisis histopatologi hepar dilakukan di akhir penelitian. Uji *Kruskal-Wallis* menunjukkan perbedaan signifikan antar kelompok ($p=0.034$). Uji *Mann-Whitney* menunjukkan kelompok perlakuan memiliki hasil yang signifikan terhadap kontrol positif artinya terdapat pengaruh pemberian barley (*Hordeum vulgare*) dalam memperbaiki histopatologi hepar. Hasil uji rerata kelompok perlakuan 3 yang diberi pakan standar campuran barley merupakan kelompok paling efektif memperbaiki gambaran histopatologi hepar yang diinduksi aloksan.

Kata Kunci : Barley , *Hordeum vulgare*, Hiperglikemia, Histopatologi Hepar

Effect of Barley (*Hordeum vulgare*) on Liver Histopathology in Alloxan-Induced Male Wistar Rats

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ABSTRACT

*This study evaluates the effects of barley (*Hordeum vulgare*) administration on the liver histopathology of male Wistar rats induced with alloxan. Alloxan-induced hyperglycemia causes oxidative stress that damages hepatocyte cells. Barley contains β -glucan and phenolic acid, which can reduce hyperglycemia and oxidative stress. This research used a true experimental design with a post-test-only control group. A total of 36 rats were divided into six groups: normal, negative control (alloxan), positive control (metformin), and three treatment groups that received barley with various combinations (barley, alloxan+barley, alloxan+feed+barley). Barley was administered for 28 days, and fasting blood glucose levels were measured on days 17, 24, 31, and 37. Liver histopathological analysis was conducted at the end of the study. The Kruskal-Wallis test showed significant differences between groups ($p=0.034$). The Mann-Whitney test indicated that the treatment groups had significant results compared to the positive control, meaning that barley (*Hordeum vulgare*) administration had an effect on improving liver histopathology. The average test results showed that treatment group 3, which received a standard feed mixed with barley, was the most effective in improving the liver histopathology damaged by alloxan induction.*

Keywords : *Barley, *Hordeum vulgare* , Hyperglycemia, Liver Histopathology*