UJI EFEKTIVITAS PEMBERIAN LARUTAN GULA AREN (*Arenga Pinnata*) TERHADAP GAMBARAN HISTOPATOLOGI HEPAR PADA TIKUS JANTAN GALUR WISTAR YANG DIINDUKSI ALOKSAN

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Abstrak

Hiperglikemia menyebabkan sel terkena stres oksidatif, hal ini mempengaruhi proses metabolisme lipid serta protein jangka panjang dan kerusakan sel hepar. Gula aren mengandung kalsium dan senyawa oksidatif berguna untuk membantu menurunkan hiperglikemia dan mengurangi agen pencetus stres oksidatif. Penelitian ini bertujuan mengetahui efektivitas pemberian larutan gula aren (*Arenga pinnata*) terhadap gambaran histopatologi hepar pada tikus jantan galur wistar yang diinduksi aloksan. Desain penelitian adalah eksperimental murni. Secara acak 30 ekor tikus dibagi menjadi lima kelompok, tiap kelompok berjumlah enam ekor tikus. Dibagi menjadi lima kelompok, yaitu: kontrol negatif, kontrol positif (aloksan) dan tiga kelompok perlakuan yang diberikan aloksan dan larutan gula aren dosis berbeda (180, 360, dan 720 mg/hari) dilakukan selama 38 hari serta dilakukan pembedahan untuk pembuatan preparat dan pewarnaan Hematoxylin-eosin. Penelitian ini mengukur kadar glukosa darah hari ke 3, 17, dan 31. Uji *One Way Anova* menunjukkan perbedaan secara signifikan antara masing-masing kelompok (p=0.001). Uji *Post Hoc* menunjukkan kelompok perlakuan memiliki hasil yang signifikan terhadap kontrol positif artinya terdapat pengaruh pemberian larutan gula aren dalam memperbaiki histopatologi hepar. Hasil uji rerata dosis 180mg/hari merupakan dosis paling efektif memperbaiki gambaran histopatologi hepar dan menurunkan kadar glukosa darah.

Kata kunci : Gula aren, Hiperglikemia, Histopatologi hepar

THE EFFECTIVENESS TEST OF PALM SUGAR (*Arenga Pinnata*) PROVISION ON LIVER HISTOPATHOLOGY DISPLAY OF ALLOXAN-INDUCED MALE GALUR WISTAR RAT

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Abstract

Hyperglycaemia causes cells to experiencing oxidative stress. This affects the long-term process of lipid and protein metabolism causes damage to liver cells. Palm sugar contains calcium and oxidative compounds useful to reduce hyperglycaemia and oxidative stress triggers. This research aimed to determine the effectiveness of palm (Arenga Pinnata) sugar solution provision on liver histopathology display of alloxan-induced male rats. This research applied pure experimental design. 30 rats were randomly put into five groups, each group totalling six rats, consisting of negative control, positive control (alloxan), and three treatment groups given alloxan and palm sugar solutions of different doses (180, 360, and 720 mg /day). It was carried out for 38 days and surgery was performed to obtain preparations and Hematoxylin-eosin staining. The blood glucose levels were measure on days 3, 17, and 31. The One Way Anova test showed significant differences between each group ($p = 0.001$). The Post Hoc Test showed the treatment groups had significant results compared to positive control, meaning that there was an effect of giving palm sugar solution in improving liver histopathology. The average dose of 180 mg/day was the most effective dose to improve liver histopathology and reduce blood glucose levels.

Key words: Histopathology of liver, Hyperglycaemia, Palm sugar