

The Effect of Purple Sweet Potato Extract (*Ipomoea batatas* (L.) Lam) on the Microscopic Appearance of Pancreas and Hepar in Rats (*Rattus norvegicus*) Induced by Alloxan

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Abstract

Diabetes mellitus is a non-communicable disease characterized by increasing of blood glucose concentration that can cause damage of pancreas, increasing of gluconeogenesis and decreasing of glycogenesis in liver. Purple sweet potato is an antidiabetic plant and has high antioxidant substance. This study aims to observe the effect of purple sweet potato extract on the microscopic appearance of pancreas and liver in rats induced by alloxan. This study used randomized post-test only control group design using 18 rats. Rats was labelled into 3 groups, that is negative control (K-), positive control (K+), and treatment (P) groups. K+ and P groups were induced by alloxan with dose of 150mg/BB, therefore the rats were hyperglycemia. P group is treated with purple sweet potato extract with dose of 200mg/kgBB for 21 days. After 21 days, the rats were terminated, and the histopathology slide of pancreas and liver was prepared. Data analysis used One Way ANOVA test, followed by Post hoc Test. The results showed that the highest percentage of pancreatic cell damage was found in the alloxan-induced group, which was 46.78%, while the percentage in the group that was given purple sweet potato extract was 9.79% and the lowest percentage found in the normal group which was 2.70%. In the liver, the highest percentage of liver cells containing glycogen was found in the normal group which was 92.80%, while in the group that was given purple sweet potato extract was 65.60% and the lowest percentage was in the group that was only induced by alloxan which was 4.72 %. The conclusion of this study is purple sweet potato can repair the microscopic appearance of pancreas and liver on rats induced by alloxan.



Biography:

Ade Yosdi Putra is a medical student in Faculty of Medicine Andalas University, Indonesia. He was born in Batang Lolo, Solok Selatan, West Sumatra on January 1, 1997 to the couple of Misnan and Ramayulis. He is the eighth child of eight siblings. When he was 6 years old, he began his education at SDN 01 Pakan Rabaa, Solok Selatan, and then after graduated; he continued his education at SMPN 4 Solok Selatan. After graduated from junior high school in 2012, he continued his education at SMAN 5 Solok Selatan and joined several organizations.

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