



## Decreased Blood Glucose and Histopathology Improvement in Hyperbaric Hyperoxic Conditions Alloxan-induced rats(Laboratory Experimental Study)

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**Abstract : Background:** Diabetes mellitus is still a problem in Indonesia, related to the number of organs involved. This disease has relatively high morbidity and mortality rates. Adjuvant therapy is needed considering the long-term therapy that must be consumed by patients. **Objective:** To explain the effect of hyperbaric oxygen in reducing blood glucose levels, and repairing histopathological damage to the pancreas and liver. **Method :** this study was an experimental laboratory study using whistar strain rats (*Rattus Norvegicus*) which were given a normal diet then induced alloxan to create a hyperglycemia condition. After that, 12 rats from the treatment group were given 3 x 30' hyperbaric oxygen exposure for 6 days. Blood glucose levels, histopathological changes in the pancreas and liver was measured between the treatment group and the control group were not given hyperbaric oxygen exposure. **Results:** There was a significant difference ( $\alpha < 0,05$ ) in decreasing blood glucose and repairing histopathological damage in pancreatic and liver tissue between treated group and control group. **Conclusion:** hyperbaric oxygen treatment as much as 3 x 30'for days at 2.4 ATA O<sub>2</sub> 100% reduce blood glucose levels and repair histopathological damage to pancreatic tissue and liver of alloxan- induced white rats.

**Key words :** hyperbaric, alloxan, blood glucose, histopatology.

Retno Budiarti / International Journal of PharmTech Research, 2019,12(4): 54-62.

DOI: <http://dx.doi.org/10.20902/IJPTR.2019.120408>

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