

ABSTRACT

Experiments on animals play an important role in the study of noninfectious diseases, insulin development for diabetes treatment, kidney failure blood dialysis, transplantation techniques, and various types of surgery advancements. In this study hyperglycemia development in mice induced with alloxan monohydrate was determined using glycated hemoglobin and compared with blood glucose. Effective dose for making the mice hyperglycemic was first determined for alloxan monohydrate concentrations and found to be 300mg/kg body weight single dose. Ten mice were randomly selected, weighed and assigned into test and control groups (5 per group). Test group was injected with 0.2ml of 300mg/kg alloxan while control group received 0.2ml of sterile water intraperitoneally. The blood glucose in the test group increased steadily from 3.7mmol/L (day1) to 8.4mmol/L (day 7). Glycated hemoglobin in the test group mice increased marginally from 4.75% to 5.18% compared with the control group at 4.85% to 4.90% with glucose levels stabilizing at 5%. The experiment demonstrates that glycated hemoglobin testing can be used to detect sub-clinical diabetes mellitus and early initiation of treatment and management.