

ABSTRACT

THE EFFECT of HIGH-CALORIE DIET TO BRAIN HISTOLGY OF MALE MICE (*Mus musculus*)

Nilam Anggraeni, Rr. I Lukitra Wardhani, Kristanti Wanito Wigati

Medical Faculty of Airlangga University, Surabaya Indonesia

Nowadays, amount of high-calorie foods that circulate in the among of people followed by a high consumption can unwittingly affect health. Several studies have reported the effects of the consumption of high-calorie foods in excess can cause hyperglycaemia to neurodegenerative interference. In the brain, there are astrocytes respond to the changing environment of the brain. This study aimed to observe the effect of high-calorie diet on brain histology of male mice (*Mus musculus*). In this study used 28 mice were divided into 4 groups: the control group pre (K0), the control group post with a standard diet (K1), the treatment group of 0,15 grams of glucose diet (K2) and the treatment group 0,25 grams of glucose diet (K3). Treatment was given everyday for 8 weeks. Brains were histologically processed and stained with hematoxylin-eosin (HE) and observed by quantitative changes of astrocytes in the cerebral cortex. Results Data were analyzed with Post-Hoc ANOVA. In this study found significant differences between K0 and K2 ($\alpha < 0.05$). In addition, significant differences were also obtained in the group K0 and K3 ($\alpha < 0.05$). Meanwhile, no significant differences found between groups ($\alpha > 0.05$). In conclusions, giving high-calorie diets affect the brain histology of male mice.

Keyword : Hyperglycemia, astrocyte, high-calorie, ROS, histology