

ABSTRACT**The Effect of Excessive Vitamin A Feeding on Histological Profile of Mice (*Mus musculus*) Liver****Anike**

The objective of this study was to prove the effect of excessive vitamin A feeding on hepatic weight and histological profile of hepatic. This study used posttest only control group design involving 40 male mice (*BALB/C* strain *Mus musculus*) aged 3-4 weeks. Treatments were given as excessive vitamin A per oral in emulsion with the doses of (1) 1/8LD₅₀ (160.62iu)/grBW/day, (2) 1/6LD₅₀ (214.16iu)/grBW/day, (3) 1/4LD₅₀ (321.25iu)/grBW/day). Treatment was given daily in 9 days. One day after the end of treatment, animals were sacrificed for hepatic removal to be used as samples. Data on hepatic weight were analyzed using Anova with significance level of 95%, while data on histological profile of hepatic was tested with Kruskal Wallis test, followed with Mann Whitney test.

The first study showed that excessive vitamin A feeding resulted in a descriptive increase of hepatic weight in treatment groups 1/8LD₅₀ and 1/6LD₅₀, although the increase was not statistically significant ($p > 0.05$), and hepatic weight was even found to decrease in treatment group of 1/4LD₅₀. The second study revealed a statistically significant change ($p < 0.05$) in histological profile of hepatic based on its fibrotic level. Hyperplasia and proliferation of hepatic stellate cells could increase hepatic weight and collagen synthesis, resulting in fibrosis. Stellate cells hyperplasia occurs due to the activity of stellate cells resulting from the stimulation of TGF- β 1 (*transforming growth factor- β 1*), PDGF (*platelet derived growth factor*), EGF (*epidermal growth factor*), and lipid peroxidation, while stellate cells proliferation occurs due to the stimulation of PDGF, thrombin, ET-1 (*Endothelin-1*), and *insulin-like growth factor*.

It can be concluded that excessive vitamin A feeding does not significantly increase hepatic weight, although the histological profile of hepatic may change significantly is increased structure collagenous tissue.

Keywords: *excessive vitamin A, stellate cells, hepatic weight, collagenous*