PROGRESSIVE HEPATIC HISTOPATHOLOGICAL CHANGES IN HIGH CHOLESTEROL DIET INDUCED NON-ALCOHOLIC FATTY LIVER DISEASE MODEL

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ABSTRACT

Non-alcoholic fatty liver disease (NAFLD) is the most common liver disease. The disease ranging from simple hepatic steatosis to progressive steatohepatitis (NASH). Recently model of NASH was established following 12% cholesterol diet for six weeks. However, histopathological changes before developing NASH were not yet determined. This study aimed to ascertain NAFLD progression at four, five and six weeks. Twelve Sprague Dawley rats were divided into four groups. Control received normal diet, and another three were fed on 12% cholesterol diet for four, five and six weeks. Body and liver weight were measured. Liver tissues stained for haematoxylin and eosin staining. The percentage of steatosis was measured using Image J software. The differences between groups were analysed using One-way ANOVA. There were significant increase in body weight in five and six week groups compared to control, while liver weight was significantly raised in six weeks. Progressive hepatic changes were observed from four to six weeks. Four weeks showed simple steatosis, whereas ballooning degeneration and inflammation were more obvious in six than five weeks. In conclusion, this model demonstrated the histopathological progression of NAFLD.

Keywords: Non-alcoholic fatty liver disease.

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