

Basic Health Sciences

Poster

Abstract ID: 25

Tualang honey improves non alcoholic steatohepatitis animal model

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Introduction: Non-alcoholic Steatohepatitis (NASH) is an emerging chronic liver disease with limited therapy available. Studies utilizing animal models induced with cholesterol diet ranging from 1-2% are hampered by inconsistent yield of NASH features. Therefore, we aimed to establish a NASH animal model utilizing 12% cholesterol diet (CD) and to investigate the effects of Tualang honey (TH) known for its anti-inflammatory and anti-oxidative properties in this model. **Methods:** Twenty-four Sprague-Dawley rats were divided into 2 groups (12% CD and standard diet) and were fed for 6 weeks. Following the establishment of NASH, the rats in the 12% CD group were subsequently divided into 3 groups. The first group was continued with only 12% CD. In the other 2 groups in addition to the 12% CD they were given TH treatment at different concentrations (1.2 and 2.4 g/kg/day) for 4 weeks. Blood biochemical analysis and histological assessment of liver were subsequently performed. **Results:** The liver histological sections of the rats fed with 12% CD showed macrovesicular steatosis, ballooning degeneration with lobular and portal inflammation. They also had increased serum alanine aminotransferase (ALT), total cholesterol (TC), low density lipoprotein cholesterol (LDL-C), fasting insulin, HOMA-IR and reduced high density lipoprotein cholesterol (HDL-C). Meanwhile, the TH treatment groups exhibited significant improvement in both the NASH grading and activity scores. The ALT, LDL-C, TC, triglyceride (TG), fasting insulin and HOMA-IR levels were reduced significantly. **Conclusions:** The 12% CD was able to induce NASH in the animal model. Tualang honey improved insulin sensitivity, dyslipidaemia, steatohepatitis.

KEYWORDS: NASH, cholesterol diet, Tualang Honey