

MEETING ABSTRACTS

***IN VITRO* MODEL OF NON-ALCOHOLIC FATTY LIVER DISEASE: THE EFFECT OF XANTHOTHUMOL**

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Non-alcoholic fatty liver disease (NAFLD) is a pathological state characterized by the excessive accumulation of triglycerides in hepatocytes without alcohol consumption. NAFLD ranges from simple steatosis to nonalcoholic steatohepatitis (NASH), which can further progress to cirrhosis and hepatocellular carcinoma (1). Xanthohumol (XN), a hop-derived prenylflavonoid, has been reported to ameliorate steatosis, inflammation, and fibrosis in murine NAFLD models (2). This study aimed to investigate the effect of XN on the expression of antioxidant enzymes in an *in vitro* model of NAFLD. For this purpose, fat accumulation was induced in murine precision-cut liver slices (PCLS) with a medium containing fatty acids (mixture of oleic and palmitic acid), fructose, and citrate. PCLS were treated with 10 μ M XN in the presence or absence of 1 μ M insulin for 24 and 36 h. The mRNA expression, specific activity of the main antioxidant enzymes, and triglyceride content were determined. Specific activities of glutathione peroxidase and glutathione S-transferase (GST) were decreased after 24 and 36 h in PCLS treated with the steatotic medium and only a slight increase in response upon XN treatment was observed. In steatotic PCLS, XN caused significant increase in the mRNA expression of NAD(P)H: quinone oxidoreductase 1, GSTA1/2, and GSTM3 after 36 h. The influence of XN on the protein expression of these enzymes will be further studied.

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Keywords: *Non-alcoholic fatty liver disease; xanthohumol; glutathione peroxidase; glutathione S-transferase*

References

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