【P1 - 4】

Effect of chronic ethanol administration on serum lipid profiles and acyl-CoA synthetase mRNA level in rats

소주련*, 차연수. 전북대학교 생활과학대학 식품영양학과

Ethanol administration both in humans and laboratory animals results in hyperlipidemia, fatty liver and ultimately the most severe stage of alcoholic liver disease. Regulation of long-chain acyl-CoA synthetase(ACS) is important for overall fatty acid metabolism because this enzyme catalyzes the initial reaction in the metabolism of fatty acids. Our objective was to find out that elevation of serum lipid profiles by chronic ethanol administration was concerned with transcription level of ACS. To investigate ACS mRNA levels in chronic ethanol administered rats, Sprague-Dawley male rats were fed with AIN-76 diet (control), control-diet plus ethanol (4g/kg B.W) for 6 weeks. The levels of serum total cholesterol(TC), HDL-cholesterol(HDLC), LDL-cholesterol(LDLC) and triglyceride(TG) were measured. ACS mRNA levels were measured by Northern blot analysis with ACS cDNA probe in livers of rats. Chronic ethanol administered rats had significantly higher level of serum TC and TG than those of control group. But there was no significant difference in serum HDLC and LDLC levels between chronic ethanol administered rats and control rats. Hepatic ACS mRNA level increased in chronic ethanol administered rats compared with control rats. These results suggest that elevation of serum lipid profiles by chronic ethanol administration is possibly regulated by transcription level of ACS.