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Cynanchum wilfordii Radix protects hepatic inflammation in mice with high-cholesterol induced non-alcoholic fatty liver disease

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Nonalcoholic Fatty Liver Disease (NAFLD) has been recognized as the most common hepatic inflammatory disorders caused by an accumulation of fat deposits in the liver. COX-2 expression is related to the inflammatory phenomena in the early phases of chronic liver diseases and to the induction of hepato-carcinogenesis. The present study investigated the anti-inflammatory effects of a root extract of *Cynanchum wilfordii* in order to elucidate the molecular mechanisms of action of the protective properties on NAFLD. Mice were randomly divided into 6 groups with 6 mice in each group: (1) normal control chow diet plus vehicle (NC); (2) high-cholesterol diet with 10% fructose in the drinking water (HCD+FRU); (3) HCD+FRU plus 50 mg/kg.bw/day; (4) HCD+FRU plus 100 mg/kg.bw/day of CWE; (5) HCD+FRU plus 200 mg/kg.bw/day of CWE or (6) HCD+FRU plus 10 mg/kg.bw/day of simvastatin via oral gavage for 12 weeks. Our results indicate that the severity of histological changes and lipid accumulation in the liver were decreased by CWE treatment. Moreover, GOT, GPT, and cholesterol levels showed significantly and dose-dependently reduced in the CWE treatment groups (50, 100, and 200 mg/kg) compared with HCD. We observed a significant high expression of COX-2 in the liver of HCD group and administration of CWE significantly reduced the expression of COX-2. These results suggested that the root of *C. wilfordii* may be used for the prevention and treatment of non-alcoholic fatty liver disease.

Biography

Hyun Jung Koo has completed her PhD from Sungkyunkwan University, School of Pharmacy and Postdoctoral studies from Gachon University, Republic of Korea. She is the Assistant Professor of Korea National College of Agriculture and Fisheries, Department of Medicinal and Industrial Crops. Her research interests have focused on discovery and identification of novel drug sources from medicinal plants and investigate molecular mechanisms of diseases. She published more than 20 papers in reputed journals.

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