銀杏、人參、五味子萃取物複方對四氯化碳誘發肝傷害老鼠肝功能的影響

Effects of Ginkgo biloba, Panax ginseng, and Schizandra chinensis extract on the functions of damaged liver induced by carbon tetrachlorede

中文摘要

本研究是探討銀杏（Ginkgo biloba）、人參（Panax ginseng）、五味子（Schizandra chinensis）萃取物複方，對 CCl4 誘發肝傷害老鼠肝功能，抗氧化力及脂質代謝的影響。Sprague-Dawley 老鼠以隨機方式分爲正常組、CCl4 組、CCl4+sliymarin (200 mg/kg/day)組、CCl4+一倍劑量（150 mg/kg/day）組及 CCl4+五倍劑量（750 mg/kg/day）組，實驗爲期六週。結果顯示，第四週時 CCl4 組血漿 GOT、GPT 值顯著高於正常組，CCl4+sliymarin 組和 CCl4+一倍劑量組之 GOT 有較 CCl4 組顯著下降的情形，CCl4+一倍劑量組之 GPT 值也較 CCl4 組顯著下降。肝臟抗氧化方面，CCl4 組之 SOD 活性顯著低於正常組，其餘三組與正常組間則無顯著差異，而 CCl4+五倍劑量組之 catalase 活性顯著高於 CCl4 組，肝臟總抗氧化狀態，CCl4 組顯著低於其他四組，CCl4 組肝臟中脂質過氧化物 MDA 含量顯著高於正常組，CCl4+一倍劑量組及 CCl4+五倍劑量組則與正常組間無顯著差異，病理切片發現，CCl4+一倍劑量組及 CCl4+五倍劑量組肝纖維化有較 CCl4 組改善。CCl4+一倍劑量組及 CCl4+五倍劑量組血漿總膽固醇含量顯著低於 CCl4 組。由結果推測，此複方可改善因 CCl4 誘發肝傷害老鼠之肝臟抗氧化能力，並延緩肝纖維化之發生。

英文摘要

This study investigated the effects of herbal cocktail (Ginkgo biloba, Panax ginseng, and Schizandra chinensis extract) on hepatic functions, antioxidation and lipid metabolism in rats with CCl4-induced liver damage. Sprague-Dawley rats were randomly divided into control, CCl4, CCl4+silymarin(200 mg/kg), CCl4+1 herbal extract cocktail(HEC; 150 mg/kg), and CCl4+5 HEC(750 mg/kg) groups. The experimental period was 6 weeks. The results showed that the CCl4 group significantly increased plasma GOT and GPT activities at week 4 compared with the control group. However, the 1 HEC group significantly decreased plasma GOT and GPT activities at week 4 compared with the CCl4 group. Hepatic SOD activity in the CCl4 group showed significantly lower than that in the control group. The activity of SOD in other three CCl4 groups was not significantly different compared with that in the control group. Hepatic catalase activity in the CCl4+5 HEC group showed significantly higher than that in the CCl4 group. The total antioxidant status in the CCl4 group significantly lower than that in other groups. Additionally, hepatic MDA concentration in the CCl4 group was significantly higher than that in the control group. However, MDA concentration in both CCl4+1 HEC and CCl4+5 HEC groups' was not significantly different compared with that in the control group. The pathologic results showed that liver fibrosis was ameliorated in the CCl4+1 HEC and CCl4+5 HEC groups compared with that in the CCl4 group. In addition, both CCl4+1 HEC and 5 HEC groups significantly decreased plasma total cholesterol compared with the CCl4 group. These results suggest that HEC can improve hepatic antioxidative capacity and decrease liver fibrosis occurring in rats with CCl4-induced liver damage.