• 系統編號	RN9406-0587
• 計畫中文名稱	中草藥多醣體對肝癌免疫治療的探討(II)
• 計畫英文名稱	Effect of Chinese Herbal Polysaccharides on Immunotherapy in Hepatocellular Carcinoma (II)
• 主管機關	行政院國家科學委員會
• 計畫編號	NSC92-2320-B038-032
• 執行機構	臺北醫學大學保健營養學研究所
• 本期期間	9208 ~ 9307
• 報告頁數	20 頁
• 使用語言	中文
• 研究人員	趙振瑞; 王靜瓊 Chao, Jane C. J.; Wang, Ching-Chiung
• 中文關鍵字	地黃多醣; 五味子; 銀杏; 肝癌
• 英文關鍵字	Rehmannia glutinosa; Schisandra chinensis; Ginkgo biloba; Hepatocellular carcinoma
• 中文摘要	行政院衛生署統計民國九十二年國人十大死因排名第一名爲惡性腫瘤，且惡性腫瘤已連續蟬連二十一年榜首，而肝癌更位居所有癌症死亡原因第一位，因此肝癌的治療成爲國內重點研究之 一。許多的植物中草藥早已在中國傳統用藥中作爲保肝、抗癌及提升免疫能力之用，如：地黃多 醣 (Rehmannia glutinosa polysaccharide)、五味子萃取物(Schisandra chinensi extract)與銀杏葉萃取物 (Ginkgo biloba extract; EGb761)具有抑制腫瘤之效果。本研究以動物實驗探討給予地黃多醣、五味 子萃取物與銀杏葉萃取物之中草藥複方對於誘導肝癌大鼠之影響。肝癌誘導之動物模式修改 2001 年 Emerich 等人之方式，以 H-4-II-E 肝癌細胞直接注射至 Fischer 344 大鼠之肝臟左葉。實驗分爲 4 組：控制組(不給予中草藥複方；不誘發肝癌)、負控制組(不給予中草藥複方；誘發肝癌)、1 倍 劑量組 (給予 1 倍之中草藥複方，地黃多醣、五味子萃取物與銀杏葉萃取物各 100 mg/kg body weight；誘發肝癌)、3 倍劑量組(給予 3 倍之中草藥複方，地黃多醣、五味子萃取物與銀杏葉萃取物各 300 mg/kg body weight；誘發肝癌)，給予中草藥複方之組別於實驗期 31 天皆於飲食中添加中草藥複方。於 D21 進行肝癌誘發，控制組進行假手術。未進行肝癌誘發手術前之結果發現，添加中草藥複方 14 天對於大鼠血中 GOT、GPT 與總抗氧化力並無顯著影響，且結果發現添加中草藥複方 21 天，無論 1 倍與 3 倍中草藥複方組之大鼠體重皆顯著較控制組爲高。進行肝癌誘發(D21)後犧牲 (D31)之結果發現，1 倍中草藥複方組之大鼠血中總抗氧化力顯著高於其他 3 組，添加中草藥複方組之肝臟重量皆顯著高於其他 2 組。於肝臟之病理切片中顯示無肝腫瘤之發生，但發現注射部位之肝細胞有發炎反應作用之表現。由本研究結果發現 1 倍中草藥複方添加 14 天可提高血中總抗氧化力，注射之肝癌細胞株 H-4-II-E 並無法於 F344 肝臟中確實造成肝腫瘤之發生。

- 英文摘要

The Department of Health reported that malignant tumor is the leading cause of death in 2003, which lasting for twenty-one years. Among cancers, hepatocellular carcinoma (HCC) is the leading cause of death. Therefore, the therapy for HCC is one of the most important research focuses. Many Chinese herbs had been used as Chinese traditional medicines for hepatoprotection, antitumor, and immune enhancer, such as Rehmannia glutinosa polysaccharides, Schisandra chinensi extract, and Ginkgo biloba extract. An in vivo study was conducted to investigate the effects of herbal cocktail (Rehmannia glutinosa polysaccharides, Schisandra chinensi extract, and Ginkgo biloba extract) in the rats with HCC. The HCC induced model was modified form the method established by Emercih et al. in 2001. Briefly, rat HCC cell line (H-4-II-E) was injected into the left lobe of the liver in Fischer 344 (F344) rats. The rats were randomly divided into four groups: control (no HCC without herbal cocktail), HCC without herbal cocktail, HCC with 1 ？？ herbal cocktail (300 mg/kg body weight/ day, Rehmannia glutinosa polysaccharides:Schisandra chinensi extract:Ginkgo biloba extract = 1:1:1), and HCC with 3 ？？ herbal cocktail (900 mg/kg body weight/day, Rehmannia glutinosa polysaccharides:Schisandra chinensi extract:Ginkgo biloba extract = 1:1:1) groups. The rats were given herbal cocktail during the experimental period (31 days). HCC was induced on D21 and the control group was conducted sham operation. The results showed that plasma GOT, GPT and total antioxidant status (TAS) levels did not significantly different among four groups before HCC induction (D14). Both the herbal cocktail groups had significantly higher body weight than the control group on D21. The 1 ？？ herbal cocktail group had significantly higher TAS level than other three groups at the end of experiment (D31). Additionally, the herbal cocktail groups had significantly greater liver weight than other groups. Liver histological section revealed there was asymptomatic HCC detected, but there were a few inflammation responses near the injection site. In conclusion, 1 ？？ herbal cocktail could promote plasma TAS level after 14-day consumption, and rat HCC cell line H-4-II-E could not substitute for MATB-III cell line to induce HCC on an animal model.