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川西獐牙菜醇提取物对内毒素所致大鼠胆汁淤积性肝 (PDF) 分享到:

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Title: Protective effect of alcohol extract of *Swertia mussoitii* Franch on lipopolysaccharide-induced cholestatic liver damage in rats

作者: [高宇](#); [柴进](#); [李绍雪](#); [刘畅](#); [程英](#); [刘潇聪](#); [连伟](#); [陈文生](#)
第三军医大学西南医院全军消化病研究所

Author(s): [Gao Yu](#); [Chai Jin](#); [Li Shaoxue](#); [Liu Chang](#); [Cheng Yin](#); [Liu Xiaocong](#); [LianWei](#); [Chen Wensheng](#)
Institute of Gastroenterology, Southwest Hospital, Third Military Medical University, Chongqing, 400038, China

关键词: [川西獐牙菜醇提取物](#); [内毒素](#); [胆汁淤积](#); [肝损伤](#); [BSEP](#); [大鼠](#)

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摘要: 目的 观察川西獐牙菜醇提取物对内毒素所致大鼠胆汁淤积性肝损伤的保护作用,以及对肝细胞胆汁酸转运蛋白胆盐输出泵(bile salt export pump, BSEP)和核受体(farnesoid X-receptor, FXR)的影响。 方法 20只SD雄性大鼠采用随机分为4组(每组5只):生理盐水组、川西獐牙菜醇提取物组、LPS+生理盐水组、LPS+川西獐牙菜醇提取物组,所有大鼠均于处理后16 h取材。统计分析各组实验大鼠肝功能指标(ALT, AST、TBIL)、胆汁流速;采用Western blot及RT-PCR观察生理盐水组、川西獐牙菜醇提取物组大鼠肝组织中BSEP和FXR在转录以及蛋白水平的表达。 结果 LPS+生理盐水组与生理盐水组相比肝损伤指标ALT、AST、TBIL明显升高($P<0.05$),胆汁流速明显下降($P<0.05$);而LPS+川西獐牙菜醇提取物组与LPS+生理盐水组相比ALT、AST、TBIL明显下降($P<0.05$),胆汁流速明显升高($P<0.05$)。川西獐牙菜醇提取物组与生理盐水组相比BSEP蛋白水平的表达明显增高($P<0.05$);与BSEP调控密切相关的核受体FXR蛋白和mRNA表达变化均不明显。LPS+生理盐水组与生理盐水组相比BSEP蛋白水平的表达明显降低($P<0.05$);而LPS+川西獐牙菜醇提取物组与LPS+生理盐水组相比BSEP蛋白水平的表达明显增高($P<0.05$);但各组之间BSEP mRNA变化均不明显。 结论 川西獐牙菜醇提取物能明显减轻内毒素诱导大鼠胆汁淤积性肝损伤,这可能与上

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调肝细胞胆酸转运蛋白BSEP的表达有关,而且BSEP表达的上调可能是通过转录后水平调节的。

Abstract: Objective To investigate the hepatic protective effect of *Swertia mussotii Franch* alcohol extract on lipopolysaccharide (LPS)-induced cholestatic liver damage in rats, and its influence on the expression of hepatic bile acid transporters bile salt export pump (BSEP) and nuclear receptor farnesoid X-receptor (FXR). Methods Twenty male SD rats were randomly divided into 4 groups ($n=5$ per group): normal saline group, alcohol extract group, LPS + normal saline group, and LPS+alcohol extract group. Bile flow rate was detected in 16 h after injection, and then liver samples and blood serum were collected. Hepatic biochemical indicators (ALT, AST, and TBiL) were detected by a biochemical analyzer. Expressions of BSEP and FXR at mRNA and protein levels were detected by RT-PCR and Western blot. Results In the LPS+normal saline group, the levels of ALT, AST and TBiL in serum were significantly higher, while bile flow rate was obviously lower than in the normal saline group ($P<0.05$). In the LPS+alcohol extract group, the levels of ALT, AST and TBiL were significantly lower, while bile flow rate was obviously higher than in the LPS+normal saline group ($P<0.05$). In the alcohol extract group, the protein expression of BSEP was higher than in the normal saline group ($P<0.05$). However, there was no obviously alteration detected at the mRNA level. Furthermore, the expression of FXR which was closely related to the regulation of BSEP appeared no notable change. In the LPS+normal saline group, the protein expression of BSEP was significantly lower than in the normal saline group ($P<0.05$). In the LPS+alcohol extract group, the protein expression of BSEP was significantly higher than in the LPS+normal saline group ($P<0.05$). However, there was no obviously alteration detected at the mRNA level between these groups. Conclusion *Swertia mussotii Franch* alcohol extract significantly reduces LPS-induced cholestatic liver damage in rats, which may involves up-regulation of hepatic bile acid transporter BSEP at a post-transcriptional level.

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