

论文

芩丹胶囊对血管外膜成纤维细胞的作用机制

任敏¹, 张继东¹, 王博¹, 刘萍², 姜虹³, 刘桂林¹

山东大学 1. 齐鲁医院中医科, 济南 250012; 2. 第二医院健康管理科, 济南 250033; 3. 齐鲁医院心血管重构与功能实验室, 济南 250012

摘要:

目的 探讨芩丹胶囊(QC)含药血清对动脉血管外膜成纤维细胞(AF)的作用机制。方法 采用组织贴块法体外原代培养大鼠胸主动脉成纤维细胞, MTT法观察大[750mg/(kg·d)]、小[150mg/(kg·d)]剂量的QC含药血清对转化生长因子β1(TGF-β1)诱导的大鼠胸主动脉成纤维细胞的增殖的影响;实时定量PCR及western blot分别检测α-平滑肌肌动蛋白(α-SM actin)和Smad3的基因及蛋白表达情况。结果 大、小剂量QC含药血清呈剂量依赖性抑制TGF-β1诱导的AF的增殖(P<0.05), 且用药组α-SM actin和Smad3基因及蛋白的表达较单纯刺激组显著降低(P<0.05)。结论 QC含药血清通过干扰TGF-β1/Smad信号转导通路抑制AF增殖和分化,从而改善和逆转动脉血管外膜重构。

关键词: 芩丹胶囊; 转化生长因子β1/Smad; 成纤维细胞; 增殖; 大鼠

Effect of Qindan Capsule on arterial adventitial fibroblasts

REN Min¹, ZHANG Ji dong¹, WANG Bo¹, LIU Ping², JIANG Hong³, LIU Gui lin¹

1. Department of Traditional Chinese Medicine, Qilu Hospital of Shandong University, Jinan 250012, China; 2. Department of Health Management, Second Hospital of Shandong University, Jinan 250033, China; 3. Laboratory of Cardiovascular Remodeling and Function Research, Qilu Hospital of Shandong University, Jinan 250012, China

Abstract:

Objective To investigate the effect and mechanism of the Qindan Capsule-containing serum on adventitial fibroblasts(AF). Methods AFs were cultured by tissue explant in vitro and induced by TGF-β1. The proliferation of AFs affected by the Qindan Capsule-containing serum with high [750mg/(kg·d)] or low [150mg/(kg·d)] dose was detected by MTT. Protein and mRNA expressions of α-SM actin and Smad3 were observed by Western-blot and Real-time PCR respectively. Results Both high and low doses of the Qindan Capsule-containing serum could reduce proliferation of AFs induced by TGF-β1 (P<0.05) and inhibit expressions of mRNA and protein of α-SM actin and Smad3 (P<0.05). Conclusion The Qindan Capsule-containing serum has significant improved and reverse effect on aortic vascular remodeling. The mechanism may be related to inhibiting proliferation and differentiation of AFs through the TGF-β1/Smad signaling pathway.

Keywords: Qindan Capsule; Transforming growth factor-beta1/Smad; Adventitial fibroblast; Proliferation; Rats

收稿日期 2009-11-17 修回日期 网络版发布日期

DOI:

基金项目:

国家自然科学基金资助课题(30873324)

通讯作者: 张继东, 教授, 博士生导师, 主要研究方向为中西医结合心血管病。 Email: drzjd@sdu.edu.cn

作者简介: 任敏(1982-), 女, 博士研究生, 主要研究方向为中西医结合心血管病。

作者Email:

参考文献:

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF(534KB)
- ▶ [HTML全文]
- ▶ 参考文献[PDF]
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

- 芩丹胶囊; 转化生长因子β1/Smad; 成纤维细胞; 增殖; 大鼠

本文作者相关文章

PubMed

