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论著

地龙对哮喘模型小鼠肺组织α-SMA及纤维蛋白的抑制作用

王莉[1],刘毅[1],王芬[2],李怀臣[1△]

1山东大学附属省立医院呼吸内科， 山东 济南 250021； 2微山县人民医院小儿内科， 山东 济宁 277608

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摘要 目的： 探讨地龙对哮喘小鼠肺组织平滑肌肌动蛋白-α（α-SMA）及纤维连接蛋白（FN）的影响。方法： BALB/c小鼠80只，随机分为对照组（A组）、哮喘组（B组）、地龙大剂量治疗组（C组）及地龙小剂量治疗组（D组）各20只。以腹腔注射0.02%鸡卵清蛋白和1%鸡卵清蛋白雾化吸入建立慢性哮喘模型。治疗组在每次雾化激发前给予地龙干预。肺泡灌洗计数各炎症细胞，ELISA检测血清总IgE水平，分离右肺固定，石蜡切片，免疫组化，用Leica QWIN V3分析系统，计算表达阳性结果;取左肺置液氮中保存，留作RT-PCR，用AlphaImager 2200半定量分析系统分析。结果： 与对照组相比，哮喘组气道平滑肌肌动蛋白-α（α-SMA）及纤维连接蛋白（FN）阳性表达显著升高，哮喘组α-SMA mRNA及FN mRNA的表达上调；地龙大剂量治疗组的α-SMA及FN的阳性表达、α-SMA mRNA及FN mRNA的表达均显著低于哮喘组；地龙小剂量治疗组的α-SMA及FN的阳性表达、α-SMA mRNA及FN mRNA的表达亦低于哮喘组，但无显著差异。结论： 地龙可抑制慢性哮喘模型小鼠肺组织中α-SMA及FN表达，提示抑制α-SMA及FN的表达可能是地龙抑制哮喘气道重构的重要机制之一。

关键词 哮喘 地龙 平滑肌肌动蛋白-α 纤维蛋白类 气道重构

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Inhibitory effect of ground dragon on the expression of α-SMA and FN in the lung tissue of mouse with asthma

WANG Li[1],LIU Yi[1],WANG Fen[2],LI Huai-chen[1]

1Department of Respiratory Medicine, Provincial Hospital Affiliated to Shandong University, Jinan 250021, China; 2Department of Pediatrics, The People's Hospital of Weishan Country, Jining 277608, China. E-mail: lihuaichen@163.com

Abstract

<FONT face=Verdana>AIM: To investigate the inhibitory effect of ground dragon on the expression of α-SMA and FN in the lung tissue with asthma. METHODS: The BALB/c mice were divided into four groups: control group (group A, n=20), asthmatic model group (group B, n=20), large-dose ground dragon treatment group (group C, n=20) and low-dose ground dragon treatment group (group D, n=20). To establish a mouse model of chronic asthma, we sensitized the mouse with 0.02% ovalbumin (OVA) by intraperitoneal injection, and stimulated the mice with 1% OVA by atomization. The treatment groups were given ground dragon before stimulation every time. After the last time of stimulation, the mice were subjected to laboratory tests. Inflammatory cells in bronchoalveolar lavage fluid were counted. Total level of IgE in serum was detected by ELISA. FN mRNA and α-SMA mRNA in the lung tissue were measured by RT-PCR and AlphaImager 2200 semi-quantitation analysis system. Expressions of FN and α-SMA were measured by the method of two-step immunohistochemistry and leica QWIN V3 analysis system. RESULTS: (1) Compared with those in group A, the expressions of α-SMA and FN in group B were significantly increased (P<0.01). Compared with group B, those in group C were significantly decreased (P<0.01), while those in group D were slightly decreased (P>0.05). (2) Compared with those in group A, the expression levels of α-SMA mRNA and FN mRNA in group B had a great increase (P<0.01). There was a notably decreases of α-SMA mRNA and FN mRNA levels in group C, compared with group B (P<0.01). However, α-SMA and FN mRNA level in group D was just a slightly decreased, compared with group B (P>0.05). CONCLUSION: The ground dragon inhibits α-SMA and FN expression in the lung tissue of mice with chronic asthma, indicating that ground dragon may inhibit airway remodeling in asthma through the inhibition of α-SMA and FN expressions.</FONT>

Key words Asthma Ground dragon Smooth muscle actin-α Fibronectins Airway remodeling

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通讯作者 李怀臣 lihuaichen@163.com