

论文

黄芪在高糖环境下对人脐静脉内皮细胞Apelin/APJ表达的影响

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摘要:

目的 观察黄芪在高糖环境下对人脐静脉内皮细胞(HUVECs)Apelin/APJ mRNA表达的影响, 探寻黄芪对HUVECs的作用机制。方法 原代培养HUVECs, 根据实验要求分为: 对照组、高糖组、低浓度黄芪组(0.1g/L浓度黄芪+高糖)、高浓度黄芪组(0.2g/L浓度黄芪+高糖), 用不同浓度的葡萄糖和黄芪注射液培养24h后, 用细胞增殖活力实验(CCK-8)检测HUVECs的增殖活力; 在倒置相差显微镜下观察HUVECs的形态变化; 逆转录聚合酶链反应(RT-PCR)检测Apelin/APJ mRNA的表达。结果 经过24h培养, 与对照组相比, 高糖组细胞增殖活力明显降低($P < 0.05$), 镜下可见细胞形态改变, Apelin/APJ mRNA的表达减少($P < 0.05$)。与高糖组相比, 黄芪干预组细胞增殖活力升高($P < 0.05$), 镜下可见细胞形态明显改善, Apelin/APJ mRNA的表达增高($P < 0.05$)。结论 黄芪可减轻高糖对内皮细胞的损伤, 亦可通过升高Apelin/APJ对HUVECs起保护作用。

关键词: 高糖; 人脐静脉内皮细胞; Apelin/APJ; 黄芪

Effects of astragalus on expression of Apelin/APJ in human umbilical vein endothelial cells exposed to high glucose

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Abstract:

Objective To investigate the effects of astragalus on expression of Apelin/APJ in human umbilical vein endothelial cells (HUVECs) exposed to high glucose and to search for the effective mechanism of astragalus on HUVECs. Methods According to the requirements of the experiment, cultured HUVECs were divided into the normal control group, the high glucose group, the low concentration astragalus group (0.1g/L astragalus + high glucose) and the high concentration astragalus group (0.2g/L astragalus + high glucose). When HUVECs were incubated in different concentrations of glucose and astragalus for 24h, proliferation activity of HUVECs was detected by cell counting Kit-8(CCK-8), morphological changes of HUVECs were observed under an inverted phase contrast microscope, and expression of Apelin/APJ mRNA in HUVECs was investigated by RT-PCR techniques. Results Compared with the normal control group, the high glucose group had significantly decreased proliferation activity of HUVECs($P < 0.05$); morphological destruction of HUVECs in the high glucose group was observed under the microscope; and expression of Apelin/APJ mRNA in the high glucose group was significantly decreased($P < 0.05$). Compared with the high glucose group, the low and high concentration astragalus groups had significantly increased proliferation activity of HUVECs ($P < 0.05$); morphological improvements of HUVECs in the low and high concentration astragalus groups were observed under the microscope; the expression of Apelin/APJ mRNA in the low and high concentration astragalus groups were significantly increased($P < 0.05$). Conclusion Astragalus can reduce the harmfulness of HUVECs exposed to high glucose, and it may be related to the up-regulation of Apelin/APJ mRNA in HUVECs.

Keywords: High glucose; Human umbilical vein endothelial cells; Apelin/APJ; Astragalus

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