论文

代谢综合征患者心脏损害与脂肪因子变化的临床研究

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摘要：

目的　探讨代谢综合征(MS)患者心脏损害特点、脂肪因子的变化及其对左室收缩和舒张功能的影响。方法　选择MS患者48例，正常对照组49例。应用组织多普勒成像技术测量二尖瓣瓣环整体运动速度指标，二尖瓣瓣环收缩期峰值运动速度(Sm)、二尖瓣瓣环舒张早期峰值运动速度(Em)、二尖瓣瓣环舒张晚期峰值运动速度(Am)，采用实时荧光定量RT-PCR技术检测单个核细胞中瘦素受体和胃饥素的mRNA表达。结果　与正常对照组比较，MS组患者舒张晚期A波流速峰值(A)显著升高，舒张早期E波流速峰值与舒张晚期A波流速峰值比值(E/A)、Sm、Em、Em/Am显著减低(P<0.01～0.001)；外周血单核细胞瘦素受体和胃饥素的mRNA表达均显著减低(P均<0.05)。相关性分析显示，瘦素受体mRNA表达与A、E/A 、Sm、Em、Em/Am显著相关(P<0.05)；胃饥素mRNA 表达与Em和Sm显著相关(P<0.05～0.01)；进一步多元线性回归分析显示，E/A与瘦素受体mRNA表达具有数量依存关系，提示MS患者瘦素受体mRNA表达下调是心脏舒张功能减低的独立影响因素；多元线性回归分析显示，Sm与胃饥素mRNA表达具有数量依存关系，提示胃饥素mRNA表达下调是左室早期收缩功能异常的独立影响因素。结论　瘦素受体和胃饥素mRNA表达下降可能是MS患者左室功能异常的机制之一。

关键词：　代谢综合征；心脏；收缩功能；舒张功能；脂肪因子

Association of adipokines with cardiac abnormalities in patients with metabolic syndrome

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Abstract:

Objective To investigate the association of adipokine's levels with left systolic and diastolic function in patients with metabolic syndrome (MS). Methods We enrolled 48 patients with MS and 49 gender- and age-matched healthy subjects who served as the control. Tissue Doppler imaging echocardiography was performed to measure systolic and diastolic mitral annular velocities, including the peak systolic mitral annulus velocity (Sm), the peak early diastolic mitral annulus velocity (Em) and the peak late diastolic mitral annulus velocity (Am). Real-time PCR assays were applied to detect expressions of leptin receptor and ghrelin mRNA expressions in peripheral blood mononuclear cells (PBMCs). Results Compared with the control, the MS group showed significant increases in the peak late diastolic velocity (A) but decreases in the ratio of early and late diastolic peak velocity (E/A), Sm, Em, and the ratio of Em and Am (Em/Am) (P<0.01～0.001). mRNA expressions of leptin receptor and ghrelin were significantly decreased in the MS group (all P<0.05). Expression of leptin receptor mRNA level was significantly correlated with A, E/A, Sm, Em and Em/Am (P<0.05～0.001), while the ghrelin mRNA level showed a significantly positive correlation with Em and Sm (P<0.05～0.01). Stepwise multiple linear regression analysis revealed a significant and independent association of E/A with decreases of leptin receptor mRNA level, as was the association of Sm with the decreases of ghrelin mRNA level. Decreases of leptin receptor mRNA level in PBMCs was an independent risk factor for left ventricular diastolic dysfunction，and the reduction of ghrelin mRNA expression was an independent risk factor for the early impairment of left ventricular systolic function. Conclusion The reduction of leptin receptor and ghrelin mRNA expression may contribute to impairments of left function in patients with metabolic syndrome.

Keywords: Metabolic syndrome; Cardiac; Systolic function; Diastolic function; Adipokines

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