

论著

天然及氧化低密度和极低密度脂蛋白促进动脉平滑肌细胞表达巨噬细胞炎性蛋白1 α mRNA

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摘要 目的: 探讨天然及氧化低密度和极低密度脂蛋白 (n-LDL, n-VLDL, ox-LDL, ox-VLDL) 是否能促进培养的动脉平滑肌细胞表达巨噬细胞炎性蛋白 (MIP) 1 α mRNA。方法: 将培养的兔主动脉平滑肌细胞暴露于上述4种脂蛋白后, 分别用原位分子杂交法及逆转录聚合酶链反应 (RT-PCR) 检测其MIP-1 α mRNA的表达。结果: 培养的兔主动脉平滑肌细胞能表达低水平的MIP-1 α mRNA, 4种脂蛋白均能增强平滑肌细胞表达MIP-1 α mRNA, 氧化型脂蛋白作用强于天然型脂蛋白, 其中又以ox-VLDL作用最强, 组间差异有极显著意义 ($P < 0.01$)。结论: n-LDL, n-VLDL, ox-LDL和ox-VLDL可能通过诱导平滑肌细胞表达MIP-1 α , 从而在动脉粥样硬化早期病变的形成中起重要作用。

关键词 [脂蛋白类](#); [巨噬细胞炎性蛋白1](#); [肌,平滑,血管](#); [动脉硬化](#)

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Native and oxidized low density and very low density lipoprotein enhance the expression of MIP-1 α mRNA in aortic smooth muscle cells

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Abstract

AIM: To understand whether native and oxidized low density and very low density lipoprotein (n-LDL, n-VLDL, ox-LDL, ox-VLDL) enhance the expression of macrophage inflammatory protein (MIP)1 α mRNA in cultured aortic smooth muscle cells (SMCs). METHODS: Native low density and very low density lipoprotein were isolated from normal blood donors by density gradient ultracentrifugation, and were oxidatively modified by adding CuCl₂. After a 24 h-exposure of the cultured SMCs to n-LDL, n-VLDL, ox-LDL and ox-VLDL, respectively, the expression of MIP-1 α mRNA was determined by in situ hybridization and RT-PCR. RESULTS: Cultured aortic SMCs expressed MIP-1 α mRNA at low level. N-LDL, n-VLDL, ox-LDL and ox-VLDL enhanced the expression of MIP-1 α mRNA in SMCs, ox-LDL and ox-VLDL showed stronger effect than n-LDL and n-VLDL, respectively. The effect of ox-VLDL was most striking. There was a significant difference between groups ($P < 0.01$). CONCLUSION: N-LDL, n-VLDL, especially ox-LDL and ox-VLDL, may play an important role in the formation of early atherosclerotic lesion by inducing SMCs to express MIP-1 α .

Key words [Lipoproteins](#) [Macrophage inflammatory protein-1](#) [Muscle smooth](#) [vascular Arteriosclerosis](#)

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