[1]杨一峻,罗洁,钱民章.胆固醇致内皮细胞损伤对平滑肌细胞增殖和迁移的促进作用[J].第三军医大学学报,2013,35(13):1362-1365.
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胆固醇致内皮细胞损伤对平滑肌细胞增殖和迁移的到：

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Title: Effect of HUVEC injury induced by cholesterol on VSMC proliferation and migration

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关键词: 动脉粥样硬化; 血管内皮细胞; 血管平滑肌细胞; 胆固醇

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摘要: 目的 观察胆固醇损伤人血管内皮细胞（human umbilical vein endothelial cell，HUVEC）后能否影响血管平滑肌（vascular smooth muscle，VSMC）的增殖与迁移。 方法 用12.5、25.0、50.0 mg/L 3个浓度的胆固醇作用体外培养的HUVEC 24 h后，再用培养内皮细胞的培养基继续培养VSMC 24 h，CCK-8、划痕实验检测VSMC增殖与迁移；用12.5、25.0、50.0 mg/L 的胆固醇作用共培养的HUVEC、VSMC 24 h，用Transwell检测VSMC迁移。 结果 25.0、50.0 mg/L胆固醇作用HUVEC后的培养基与对照组相比（1.37±0.01），明显促进VSMC增殖（1.53±0.06）、（1.54±0.10）(P<0.05)；12.5、25.0、50.0 mg/L胆固醇作用HUVEC后的培养基与对照组相比（33.24±0.43）均能促进VSMC细胞迁移[(269.10±3.78)、(272.79±4.69)、(458.69 ±4.78)，P<0.01]。胆固醇作用共培养的HUVEC、VSMC 24 h后，促进VSMC迁移[（175.00±4.63）、（182.00±4.13）、(207.00±5.59)]，与对照组相比(101.00±2.33)差异明显(P<0.01)。 结论 胆固醇诱导HUVEC损伤后能够促进VSMC增殖与迁移。

Abstract: Objective To observe the effect of human umbilical vein endothelial cell (HUVEC) injury induced by cholesterol on human aortic vascular endothelial cell (HA-VSMC) proliferation and migration. Methods HUVEC were treated with cholesterol at 12.5, 25.0 and 50.0 mg/L for 24 h, and then the VSMCs were

incubated with the medium of cultured HUVEC for 24 h. CCK-8 and scratch assay was applied to analyze VSMC viability and migration. HUVEC and VSMC was co-cultured and treated with cholesterol at 12.5, 25.0 and 50.0mg/L for 24 h. VSMC migration was detected by Transwell assay. Results Compared with the control group (1.37±0.01), the proliferation of VSMCs incubated with the culture medium of HUVEC treated with cholesterol at 25.0 mg/L and 50.0 mg/L increased significantly (1.53±0.06 and 1.54±0.10, *P*<0.05). The culture medium of HUVEC subjected to cholesterol at 12.5, 25.0 and 50.0 mg/L could induce VSMC migration (269.10±3.78, 272.79±4.69 and 458.69±4.78), which were significantly different from that of the control group (33.24±0.43, *P*<0.01). The co-culture of HUVEC and VSMC treated by cholesterol induced VSMC migration (175.00±4.63, 182.00±4.13 and 207.00±5.59), which were significantly different from that of the control group (101.00±2.33, *P*<0.01). Conclusion HUVEC, which is injured by cholesterol, can induce VSMC proliferation and migration.

参考文献/REFERENCES:

杨一峻，罗洁，钱民章. 胆固醇致内皮细胞损伤对平滑肌细胞增殖和迁移的促进作用[J].第三军医大学学报,2013,35(13):1362-1365.

相似文献/REFERENCES:

[1]李明,孙守兵,周越,等.去甲肾上腺素诱导人巨噬细胞MMP-9的表达及机制[J].第三军医大学学报,2012,34(17):1758.
Li Ming,Sun Shoubing,Zhou Yue,et al.Norepinephrine induces expression of matrix metalloproteinase-9 in human macrophages and its mechanisms[J].J Third Mil Med Univ,2012,34(13):1758.
[2]王柯静,程渝,周远大.野马追提取液对动脉粥样硬化家兔炎症反应的防治作用[J].第三军医大学学报,2012,34(18):1853.
Wang Kejing,Cheng Yu,Zhou Yuanda.Lindley eupatorium herb extract prevents and attenuates vascular inflammation reaction in atherosclerosis rabbits[J].J Third Mil Med Univ,2012,34(13):1853.
[3]蒙颖,徐芳,王志禄,等.罗格列酮对泡沫细胞中胆固醇贮存与运输相关蛋白ACAT-1、ABCA-1表达的影响[J].第三军医大学学报,2012,34(22):2288.
Meng Ying,Xu Fang,Wang Zhilu,et al.Effect of rosiglitazone on expression of acyl-coenzyme A cholesterol acyltransferase 1 and ATP-binding cassette transporter A1 in foam cells[J].J Third Mil Med Univ,2012,34(13):2288.
[4]黄朝晖,吴雄飞,赵洪雯,等.ApoE－/－小鼠肾动脉狭窄及肾损害特点观察[J].第三军医大学学报,2007,29(19):1844.
HUANG Zhao-hui,WU Xiong-fei,ZHAO Hong-wen,et al.Atherosclerotic renal artery stenosis and renal injury in apolipoprotein E knockout mouse[J].J Third Mil Med Univ,2007,29(13):1844.
[5]彭丹丹,李志梁.冠状动脉粥样硬化性心脏病患者单核细胞CX3CR1表达的研究[J].第三军医大学学报,2008,30(06):546.
PENG Dan-dan,LI Zhi-liang.CX3CR1 expressions in monocytes from patients with coronary heart diseases[J].J Third Mil Med Univ,2008,30(13):546.
[6]彭侃夫,赵洪雯,余荣杰,等.晚期氧化蛋白产物诱导血管平滑肌细胞表达MCP-1及其信号转导通路的研究[J].第三军医大学学报,2008,30(02):101.
PENG Kan-fu,ZHAO Hong-wen,YU Rong-jie,et al.Signal transduction of advanced oxidation protein products induced MCP-1 expressions in vascular smooth muscle cells[J].J Third Mil Med Univ,2008,30(13):101.
[7]李骊华,雷寒.不同剂量厄贝沙坦对兔主动脉粥样硬化中环氧合酶2的影响[J].第三军医大学学报,2008,30(10):917.
LI Li-hua,LEI Han.Effect of Irbesartan on cyclooxygenase-2 in aortic atherosclerotic lesion in rabbits[J].J Third Mil Med Univ,2008,30(13):917.
[8]申丽丽,彭家和,刘红,等.法尼酯X受体对脂肪酸合酶表达的影响[J].第三军医大学学报,2007,29(22):2142.
SHEN Li-li,PENG Jia-he,LIU Hong,et al.Effects of farnesoid X receptor on expression of fatty acid synthetase in HepG2 cells[J].J Third Mil Med Univ,2007,29(13):2142.
[9]李琴山,刘洋,冯赞杰,等.单核细胞趋化蛋白-1对人脐静脉内皮细胞凋亡的影响[J].第三军医大学学报,2007,29(17):1682.
LI Qin-shan,LIU Yang,FENG Zan-jie,et al.Monocyte chemotactic protein-1 induces the apoptosis of human umbilical vein endothelial cells[J].J Third Mil Med Univ,2007,29(13):1682.
[10]曾祥君,肖颖彬,王学锋,等.体外循环血清孵育及NAC干预对血管内皮细胞凋亡的影响[J].第三军医大学学报,2007,29(13):1326.
ZENG Xiang-jun,XIAO Ying-bin,WANG Xue-feng,et al.Effect of NAC on apoptosis induced by CPB serum of in vitro cultured endothelial cells[J].J Third Mil Med Univ,2007,29(13):1326.
[11]金鑫,易龙,陈春烨,等.膜电位及MAPK磷酸化在飞燕草素抑制Ox-LDL诱导的血管内皮细胞氧化损伤中的作用[J].第三军医大学学报,2009,31(19):1854.

JIN Xin,YI Long,CHEN Chun-ye,et al.Delphinidin-3-glucoside inhibits Ox-LDL-induced injury in vascular endothelial cells: roles of membrane potential and MAPK phosphorylation[J].J Third Mil Med Univ,2009,31(13):1854.

[12]陈明亮,易龙,金鑫,等.白藜芦醇对TNF-α诱导的血管内皮细胞炎性反应的影响[J].第三军医大学学报,2012,34(13):1255.

Chen Mingliang,Yi Long,Jin Xin,et al.Effect of resveratrol on TNF-α-induced vascular endothelial inflammation in vitro [J].J Third Mil Med Univ,2012,34(13):1255.