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EFFECT OF ADENOVIRUS MEDIATED HUMAN RAMP1 GENE ON PROLIFERATION AND APOPTOSIS OF VSMCS

Long Xianping, Zhao Ranzun, Shi Bei, Cui Can, Sheng Jin, Chen PankeThe First Affiliated Hospital Of Zunyi Medical College, Zunyi, China

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Objective To investigate the effect of adenovirus mediated human receptor activity modifying protein-1 (RAMP1) gene on Proliferation and Apoptosis of Vascular Smooth Muscle Cells (VSMCs) derived from thoracic aortic of rabbits.

Methods VSMCs, isolated from thoracic aorta of rabbit, were divided into three groups: RAMP1 group, empty-adenovirus vector group and control group according to whether transferring Ad-eGFP -hRAMP1 or Ad -eGFP, and each group including four subgroup of 24 h, 48 h, 72 h and 96 h. RAMP1 protein

was detected by immunocytochemistry, and the proliferation of VSMCs by cell count and MTT, and the apoptosis of VSMCs by flow cytometry and TUNEL assay.

Results VSMCs were successfully infected by Ad- eGFP -hRAMP1 or Ad -eGFP, and the expression of eGFP was increasing, peaking at 72 h and lasting for 96 h. VSMCs had the expression of human RAMP1 protein and the activity of cell proliferation was significantly inhibited in RAMP1 group compared with that in empty-adenovirus vector group and control group ($p<0.05$). Also, the level of VSMCs apoptosis was much higher in RAMP1 group compared with other groups ($p<0.05$).

Conclusion The over-expression of human RAMP1 mediated by Adenovirus vector play the role of inhabitation of VSMCs proliferation and promotion of VSMCs apoptosis, which could be the therapeutic target of vascular proliferation disease.