

water and 60% alcohol (5 ml/kg once per day) by intragastric administration in the first week; 10% alcohol ad libitum as the drinking water and 60% alcohol (10 ml/kg twice per day) by intragastric administration in the second week; 20% alcohol ad libitum as the drinking water and 60% alcohol (15 ml/kg twice per day) by intragastric administration from week 3 to week 16; and 30% alcohol ad libitum as the drinking water and 60% alcohol (15 ml/kg twice per day) by intragastric administration from week 17 to month 6. Animals in the control group received purified drinking water in the same regimen with alcohol treatment. Before and 6 months after initiating the study, left ventricular end diastolic diameter (LVEDD), left ventricular ejection fraction (LVEF), and fractional shortening (FS) were assessed by echocardiography. Six months after the study started, histopathology and ultrastructure of myocardium were examined with light and electron microscopy; mRNA expression of TACE was evaluated by real-time PCR; and protein expression of TACE and TNF- α was analysed using immunohistochemistry and western blot, respectively.

Results Following 6 months of alcohol feeding, LVEF and FS were reduced ($p < 0.05$ for all), while LVEDD was augmented in the ACM group ($p < 0.05$), as compared with the control group. Severe changes in cardiac structure were also seen in the ACM group. The mRNA and protein expression of TACE and the protein expression of TNF- α were up-regulated in the ACM group in comparison with the control group ($p < 0.05$ for all). In both groups, the protein expression of TACE positively correlated with that of TNF- α ($p < 0.01$) and LVEDD, whereas it negatively correlated with LVEF ($p < 0.05$).

Conclusions TACE is over-expressed in the ventricle of ACM rats, and may involve in the process of ventricular remodelling via cleaving TNF- α . Therefore, TACE may represent a new therapeutic target in the prevention and treatment of ventricular remodelling in ACM.

e0155 SMOKING TREATMENT INCREASE SERUM AGES LEVEL AND HAVE EFFECTS ON EXPRESSION OF ICAM-1 IN VASCULAR ENDOTHELIAL CELLS OF RAT

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Objective To investigate whether smoking can increase serum advanced glycosylation end products (AGEs) level and have effects on expression of intercellular cell adhesion molecule-1 (ICAM-1) in vascular endothelial cells of rat.

Methods Male SD rats ($n=138$) were randomly assigned to five groups according to duration of smoking treatment: 2-week group, 4-week group, 6-week group, 8-week group, smoking cessation group. The rats of following groups, that is 2w, 4w, 6w and 8w groups were further randomly divided into five subgroups according to intervening condition: control subgroup, smoking treatment for 1 h/per day subgroup, smoking treatment for 0.5 h/per day subgroup, aminoguanidine hydrochloride subgroup, puerarin subgroup; the rats of smoking cessation group were further randomly divided into three subgroups according to duration of smoking cessation: smoking cessation 2 weeks subgroup, smoking cessation 4 weeks subgroup and smoking cessation 6 weeks subgroup. The rats of 2w, 4w, 6w and 8w groups were sacrificed after smoking treatment for 2, 4, 6 and 8 weeks respectively; the rats of smoking cessation group were sacrificed after smoking treatment for 8 weeks and then cease-smoking for 2, 4, and 6 weeks respectively. Serum AGEs levels of each rat were assayed by fluorescent method. ICAM-1 mRNA and protein of vascular endothelial cells were determined by semiquantitative RT-PCR (Reverse transcription PCR) and immunohistochemistry.

Results Serum AGEs levels of all SM1 subgroups rats were increased after smoking treatment for 2 weeks ($p < 0.01$), and reached peak at 4 weeks ($p < 0.001$), then declined at 6 weeks and 8 weeks, but did not recover back to normal level; the increasing trend was depressed by aminoguanidine hydrochloride and puerarin. Levels of serum AGEs declined in smoking cessation rats, and were significantly lower at 4 weeks than those before smoking cessation ($p < 0.001$). With the increased duration of smoking, ICAM-1 mRNA and protein of vascular endothelial cells were up-regulated, both aminoguanidine hydrochloride and puerarin depress the up-regulation. The expression of ICAM-1 mRNA and protein of vascular endothelial cells also declined after smoking cessation, and they were significantly lower in rats of smoking cessation of 4 weeks subgroup than those before smoking cessation ($p < 0.05$).

Conclusions Smoking treatment increase serum AGEs level in rat. Cigarette-induced AGEs play roles in the augmented expression of ICAM-1 in vascular endothelial cells of rat with smoking treatment. Aminoguanidine hydrochloride, puerarin and smoking cessation contribute to the decrease of serum AGEs level and the expression of ICAM-1 in vascular endothelial cells of rat.

e0156 UROTENSIN II PROMOTES MONOCYTE CHEMOATTRACTANT PROTEIN-1 EXPRESSION IN AORTIC ADVENTITIAL FIBROBLASTS OF RAT

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Background Recent studies reported that vascular adventitial fibroblasts (AFs) are involved in the development of vascular inflammatory diseases, such as atherosclerosis. Urotensin II (UII), a potent vasoconstrictive peptide, could stimulate phenotype differentiation and proliferation of the AFs. The goal of this study was to investigate the effect of UII on the expression of monocyte chemoattractant protein-1 (MCP-1) in rat aortic AFs, and to study the signal transduction pathways of it.

Methods Growth-arrested AFs were incubated in serum-free medium with UII (10^{-10} – 10^{-7} mol/l). In order to explore the mechanism of UII effect, the cells were pretreated with some inhibitors of signal transduction pathways for 30 m, and then incubated with UII (10^{-8} mol/l) for 3 h to 24 h. The MCP-1 mRNA and protein expression induced by UII were evaluated by the reverse transcriptase PCR and Western Blotting, respectively. The MCP-1 secretion from the cells was determined by ELISA.

Results UII could upregulate MCP-1 expression significantly. The MCP-1 mRNA expression increased after 1 h ($p < 0.05$) of UII (10^{-8} mol/l) treatment and reached a peak at 3 h ($p < 0.01$). It then declined from 6 to 24 h, and there are no significantly differences from 0 h group. UII dose-dependently induced MCP-1 mRNA expression, with maximal effect at a concentration of 10^{-8} mol/l at 3 h ($p < 0.01$). The MCP-1 mRNA expression was increased by 70.10%, 109.65%, 189.73% and 122.99% in 10^{-10} mol/l, 10^{-9} mol/l, 10^{-8} mol/l and 10^{-7} mol/l group, respectively, as compared with the control group (without UII stimulation), and the upregulation was significant ($p < 0.01$ in all groups). The effect of UII was inhibited significantly by the UII receptor antagonist SB710411 (10^{-6} mol/l), Rho protein kinase inhibitor Y27632 (10^{-5} mol/l), protein kinase C inhibitor H7 (10^{-5} mol/l), mitogen-activated protein kinase inhibitor PD98059 (10^{-5} mol/l), calcineurin inhibitor Cyclosporine A (10^{-5} mol/l) and Ca^{2+} channel blocker nifedipine (10^{-5} mol/l), ($p < 0.01$ in all groups). In addition, UII also induced protein expression and secretion of MCP-1 in the cells, both in