CONCLUSIONS The TT genotype and T allele of rs2617849 in gp78 gene could be a risk genetic marker of T2DM in Han population in China. In contrast, the CC genotype and C allele of rs2617849 in gp78 gene could be a protective genetic marker of T2DM in Han population in China.

GW26-e4586
Endothelin-1 Uregulates CTRP9 Gene Expression in Cardiomyocytes
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OBJECTIVES Ccr2/TNF-related protein (CTR9) as an adiponectin paralog, is an adipocytokine that play an important role in glucose and lipid metabolism. ET-1 has been shown to induce insulin resistance in vitro and in vivo and proposed that it might regulate adiponectin expression. In the present study, we explored the regulatory effects of ET-1 on CTRP9 gene expression and the underlying mechanisms in hypertrophic cardiomyocytes.

METHODS Neonatal rat ventricular myocytes (NRVMs) were treated with various concentrations of ET-1, and CTRP9 gene expression was measured by quantitative real-time reverse transcription-polymerase chain reaction.

RESULTS ET-1 was found to cause a significant time- and dose-dependent increase in CTRP9 gene expression, and this effect was inhibited by the ET type A receptor (ETAR) antagonist BQ-610 but not by the ETBR antagonist BQ-788. To explore the underlying mechanism, we examined the involvement of the CAMP-dependent protein kinase A, phospholipase A2, protein kinase C, and MAPK pathways. CTRP9 was downregulated by ET-1 in control group, but up-regulated 2.7-fold in Ad-Pre-miR-17 group (p < 0.05). ERK pathway could be stimulated by miR-17 silencing, which demonstrated increased levels of phosphorylated ERK (P-ERK) and anti-apoptosis protein bcl-2 1.42-fold and 1.40-fold. However, apoptosis proteins, including bax, caspase3, caspase9 were decreased by 23.1%, 29.2%, 33%, respectively (p < 0.05) in Ad-Anagomir-17 group. In Ad-pre-mir-17 group, PERK and bcl-2 were down regulated by 11.4% and 69.8%, while apoptosis proteins mentioned above were up regulated by 2.05-fold, 1.35-fold, 2.04-fold, respectively (p < 0.05) in Ad-mir-17 group. miR-17 could inhibit apoptosis of cardiac tissue compared to Ad(N) group (0.23 ± 0.038 vs. 0.41 ± 0.038, p < 0.05). CD31 staining also indicated that mir-17 silencing could promote endothelial growth after MI though improving endothelial function and increasing the density of new blood vessels after MI.

CONCLUSIONS Downregulation of microRNA-17 Improves Cardiac Function After Myocardial Infarction Via Attenuation of Apoptosis in Endothelial Cells
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OBJECTIVES Impairment of microcirculation is one of the major reasons for the aggravation of cardiac function after myocardial infarction (MI). Studies have indicated that microRNA - 17 (miR-17) has the ability to inhibit angiopoesis in tumors. Here we hypothesized that downregulation of miR-17 might enhance cardiac function after MI though improving endothelial function and increasing the density of new blood vessels after MI.

METHODS Human umbilical vein endothelial cells (HUVECs) were infected with adenovirus containing pre-miR-17, antagonimIR-17 or control adenovirus (Ad(N)) for miR-17 over expression (Ad-Pre-miR-17) or miR-17 silencing (Ad-Antagomir-17). Apoptosis was induced and determined by Annexin V-TAD/PI. Real time RTPCR was used to evaluate levels of miR-17 and ERK. Protein levels of ERK and apoptosis proteins including bcl2,bax,caspas3 and caspase9 were determined by western blot In vivo, MI model was established in SD male rats. Adenoviruses (5^10^9/10^8ml) mentioned above were injected into the apex of heart. Cadiac function was evaluated by echocardiography before models were built, and reevaluated at 7 days or 28 days after MI. Followed with echocardiography cardiac tissue of infarction border area was removed for histological examination, real time RT-PCR and western blot, as described above.

RESULTS MiR-17 level was down regulated by 23% in Ad-Antago- mir-17 group, but up regulated 2.7-fold in Ad-Pre-miR-17 group (p < 0.05). ERK pathway could be stimulated by miR-17 silencing, which demonstrated increased levels of phosphorylated ERK (P-ERK) and anti-apoptosis protein bcl-2 1.42-fold and 1.40-fold. However, apoptosis proteins, including bax, caspase3, caspase9 were decreased by 23.1%,29.2%,33%, respectively (p < 0.05) in Ad-Anagomir-17 group. In Ad-pre-mir-17 group, PERK and bcl-2 were down regulated by 11.4% and 69.8%, while apoptosis proteins mentioned above were up regulated by 2.05-fold, 1.35-fold, 2.04-fold, respectively (p < 0.05) in Ad-mir-17 group. miR-17 could inhibit apoptosis of cardiac tissue compared to Ad(N) group (0.23 ± 0.038 vs. 0.41 ± 0.038, p < 0.05). CD31 staining also indicated that mir-17 silencing could promote endothelial growth after MI though improving endothelial function and increasing the density of new blood vessels after MI (0.814 ± 0.047 vs. 0.360 ± 0.166, 0.736 ± 0.069 vs. 0.4 ± 0.1 ± 0.181 ± 0.05).

CONCLUSIONS Apoptosis in ECs could be inhibited by down regulation of miR-17 though ERK pathway. Down regulation of microRNA-17 could improve cardiac function after myocardial infarction via attenuation of apoptosis in endothelial cells.

GW26-e0112
Curcumin Modulates Macrophage Polarization Through the Inhibition of the Toll-Like Receptor 4-Mitogen Activated Protein Kinase/Nuclear Factor-B Pathways
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OBJECTIVES Curcumin, the active ingredient in curcuma rhizomes, has a wide range of therapeutic effects. However, its other protective activity in human acute monocytic leukemia THP-1 cells remains unclear. We investigated the activity and molecular mechanism of action of curcumin in polarized macrophages.

METHODS Phorbol myristate acetate (PMA)-treated THP-1 cells were differentiated to macrophages, which were further polarized to M1 cells by lipopolysaccharide (LPS; 1 μg/ml) and interferon (IFN)-γ (20 ng/ml) and treated with varying curcumin concentrations. [3H] thymidine ([H]-Tdr) incorporation assays were utilized to measure curcumin-induced growth inhibition. The expression of tumor necrosis factor-α (TNF-α), interleukin (IL-6), and IL-12 were measured