RESULTS On the 14th and 28th day, increased LVEDD, LVEDV, LVESV and decreased LVEF, FS were encountered in the LR group. On the 14th, 28th day, the NGF group had higher LVEF, FS levels compared to LR group. On the 28th day, the NGF group had lower LVEDD, LVEDV, LVEDV, LVESV, LVES levels compared to LR group.

CONCLUSIONS The effectiveness of exogenous NGF may help postpone the myocardial remodeling and promote the myocardial neo-vascularization. The effectiveness of exogenous NGF may help improve myocardial blood flow and anastomosed (endothelial cells) ECs and cardiomyocyte survival and promoting the myocardial neo-vascularization.

GW26-e0784
The Present and the Probable Future Rat Models of Myocardial Infarction
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OBJECTIVES To review the current research and published literature regarding the development of rat models of Myocardial Infarction (MI) and give a comprehensive evaluation on them.

METHODS A review of the current and relevant papers and research information via a search of several large databases of medical from January 1980 to present.

RESULTS Comparing with other animals like pig or monkey, rats have advantages on feeding and related cost. This model of MI has been the dominant model of the experimental study by taking up 70% or even higher proportion in this field. With the progressing of science and technology, some new methods in rat MI models such as balloon occlusion and gene knockout are spring up in these years. However, the seemingly old method - coronary artery ligation is still the first choice of most researchers.

CONCLUSIONS Rat model of MI can be relatively quickly made now by ligation of left anterior descending branch of the coronary artery, and its mortality has decreased effectively based on existing research. This model will continue to be a priority for researchers in a long period of time.

GW26-e0777
Effects of Rosuvastatin on Tar and Nicotine Induced the Interaction Between Thrombomodulin and Thrombin by Live-Cell Single-Molecule Force Spectroscopy
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OBJECTIVES Tar and nicotine exposure via cigarette smoking and tobacco chewing is associated with vascular complications. Rosuvastatin is recognized in its effect on endothelial cells protection and anti-coagulation. As a vital anticoagulation cofactor, thrombomodulin (TM) located on the endothelial cell surface is able to regulate intravascular coagulation by binding to thrombin, and the binding results in thrombosis inhibition. The present study investigated the effects of Rosuvastatin on tar and nicotine induced the interaction between TM and thrombin and the expression of TM.

METHODS We have applied the advanced method of live-cell single-molecule force spectroscopy to investigate the effects of Rosuvastatin on tar and nicotine induced the interaction between TM and thrombin.

RESULTS Our results showed that the single-molecule binding force of thrombomodulin and thrombin detected by AFM in the living cells was about 55 pN and the binding probability was about 27.5%. Tar significantly decreased the binding probability between TM and thrombin (3.75 ± 3.02)% when compared with that of control group (26.46 ± 5.35)% (P < 0.05), whereas expression of TM was significantly increased by tar (3.75 ± 5.07)% induced by tar. And Rosuvastatin significantly enhanced the binding force between TM and thrombin (80.8 ± 15.39)% when compared with that of control group (56.8 ± 8.29%)(P < 0.05).

GW26-e0799
Effect of CD137 Signaling on the Expression of Nuclear Factor of Activated T-Cells, Cytosplasmic 1(NFATc1) in Mice VSMCs Through TRAF6/NF-kB Pathway
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OBJECTIVES Vascular smooth muscle cell (VSMC) phenotype transformation is an important phenomenon of vessel neointima in lesion progression. CD137 can accelerate the plaque formation, but the potential underlying mechanism.

METHODS Agonist-CD137 antibody and anti-CD137 antibody were used to activate or block CD137 axis respectively in Apoe−/− mouse or VSMC. The content of mir-145, NFATc1 and phenotype marker was measured by RT-PCR and western blot. Immunofluorescence was used to observe the distribution of NFATc1 or nuclear translocation.

RESULTS miR-145a-5p expression was downregulated (0.28 ±0.06 VS 1.00± 0.00, 0.28 ±0.06 VS 0.67±0.013, p<0.05), whereas expression of nuclear factor of activated T-cells c1 (NFATc1) was significantly up-regulated (2.21 ±0.21 VS 1.47±0.13, p<0.05). Phenotype markers such as SM-MHC, α-SMA and vimentin were also altered in vivo or in vitro. CD137 failed to transfected with mir-145a-5p mimics or inhibitors by Lipofectamine. Eukaryotic expression vector and luciferase vector were constructed and co-transfected to the 293T with mimics or inhibitors to measure the protein level and fluorescence intensity respectively. Stable VSMC cell line which knock-down NFATc1 or overexpress miR-145 and control were built by lenti-virus. CCK-8 assay and transwell assay were performed to detect the proliferation and migration of cell. mir-145 agonist and agonist CD137 antibody were used in Apoe−/− mice and immunohistochemistry or Masson’s trichrome assay were performed to observe the plaque stability.

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OBJECTIVES To observe whether the CD137 signaling affect the expression of NFATc1 in mice VSMCs through TRAF6/NF-kB pathway.

METHODS Patch-attaching method was used for primary culture of mouse aortic vascular smooth muscle cells(VSMCs). Immunofluorescence was used to identify the primary cells. The expression of CD137 mRNA and NFATc1 mRNA were measured by real-time quantitative