GW26-e2202  
An Novel Variant in the HNF4G Gene is Associated With Hyperuricemia in Chinese Han population
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OBJECTIVES  
Hepatocyte nuclear factor 4 gamma (HNF4G) is a protein binding to a DNA element of the transthyretin promoter in pancreas, kidney and small intestine. In a recent GWAS study, some SNPs in HNF4G gene are found to be associated with uric acid concentrations. The aim of the present study was to assess the association between the human HNF4G gene and hyperuricemia in Chinese Han population.

METHODS  
A total of 414 hyperuricemia patients and 406 gender and age-matched normouricemic controls were enrolled. Four single-nucleotide polymorphisms (SNPs) were genotyped as genetic markers for the human HNF4G gene (rs2977939, rs1805098, rs9241484, rs4735692). Data were analyzed for three separate groups: the total subjects, men, and women.

RESULTS  
For rs9241484 (SNP3), the genotype distribution in hyperuricemic subjects and was significantly different from that in normouricemic controls in total subjects (P = 0.043) and men (P = 0.038). Meanwhile, in recessive model of rs9241484, the distribution frequency of TT genotype and CC-CT genotypes also showed the significant difference between the hyperuricemia patients and normouricemic controls (P = 0.012 in total subjects and P = 0.011 in men). In men, after adjustments for SBP, DBP, fasting glucose, total cholesterol, triglycerides, LDL-C and creatinine, the people with the TT genotype of rs9241484 were found to have significantly higher change in uric acid than the ones with CT and CC genotypes (OR=1.887, P = 0.007).

CONCLUSIONS  
The results of this study indicate that the TT genotype of rs9241484 in the human HNF4G gene might be a gender-specific genetic marker for hyperuricemia in Chinese Han men.

GW26-e2215  
Effects of Atorvastatin on JNK/AP-1 Signaling Pathway and the Expression of Related Factors in high glucose concentration-induced Vascular Endothelial Cells
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OBJECTIVES  
To study the effects of a atorvastatin on JNK/AP-1 signaling pathway and the expression of related factors in high glucose concentration-induced vascular endothelial cells.

METHODS  
HUVECs cultured in vitro were divided into blank control group (HG, 5.5 mmol/L), the high glucose group (HG, 33 mmol/L), the atorvastatin group (HG 33 mmol/L-atorvastatin 10 μmol/L). They were cultured with relevant drugs for 48 h. The enzyme linked immunosorbent assay (ELISA) was adopted to determine the content of TNF-α, IL-6, ICAM-1 and VCAM-1, and pJNK, pcJUN and AP-1 protein expressions were determined by western blotting assay.

RESULTS  
Compared with blank control group, the content of TNF-α, IL-6, ICAM-1 and VCAM-1 increased significantly in HG group (P < 0.05), while pJNK, pcJUN and AP-1 protein expressions increased significantly (P < 0.05). Compared with HG group, the content of TNF-α, IL-6, ICAM-1 and VCAM-1 in atorvastatin group decreased (P < 0.05), while pJNK, pcJUN and AP-1 protein expressions decreased (P < 0.05).

CONCLUSIONS  
Atorvastatin can inhibit JNK/AP-1 signaling pathway and the expression of related factors in high glucose concentration-induced Vascular Endothelial Cells.

GW26-e2253  
An Imaging-based Renal Denervation Strategy in Hypertensive Canines Using Integrated Ultrasound Catheter
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OBJECTIVES  
Current renal denervation (RDN) procedures are criticized for their lack of targeted energy delivery and their clinical outcome should be improved. We aimed to access an imaging-based ablation strategy for RDN in hypertensive canine models using an integrated ultrasound catheter.

METHODS  
An ultrasound imaging probe and acoustic ablation transducer were integrated in an 8 F catheter to provide renal-arterial nerve ultrasonography and guided catheter-based acoustic RDN procedures. Ultrasonographic evaluation of renal innervation was conducted in 27 hypertensive dogs. Three dogs were killed immediately post-ablation; 20 were subjected to RDN using imaging-based site selection and 4 underwent sham procedure. In the RDN group, 4 dogs were killed immediately post RDN, while the rest were killed after 28 days for pathologic examinations. The blood samples were collected for biomarker detection and safety evaluation in all animals before imaging and sacrificed.

RESULTS  
All of animals survived the procedure. The renal nerves exhibited linear-like echoes, and the distribution densities varied significantly across both the arterial regions and individual animals. In the RDN group, 170 of the 256 ultrasonographically observed sites with higher nerve densities were selected for ablation. An average energy emission of 10.6 times was delivered to the bilateral renal artery. The BP significantly decreased compared to the baseline (-12.6/9.1 mmHg, p < 0.05) and to the sham group at 28 days post-ablation. The plasma noradrenalin decreased slightly but statistically significantly. The denervation effects were confirmed by pathological findings without significant acoustical ablation-related complications.

CONCLUSIONS  
The ultrasound imaging-based RDN ablation can be safely and effectively performed in this hypertensive canine model. Thus, the individualized strategy should be explored as a novel procedure for improving RDN in clinical practice.