

which mean systolic pressure in IDH group is higher than which in groups of SDH and ISH ($P<0.01$). BMI, waist-to-hip ratio (WHR) and mean serum urea acid in every subtype are all higher than which in control group ($P<0.01$). Mean fasting blood sugar (FBS) in groups of SDH and ISH are all higher than which in control group ($P<0.01$), no statistical significance of FBS between IDH group and control group ($P>0.05$). Mean of TC, TG, LDL-C and VLDL-C in every subtype are all higher than which in control group ($P<0.01$), mean HDL-C is lower than which in control group ($P<0.01$), and mean of TG and VLDL-C in IDH group are all higher than which in groups of SDH and ISH ($P<0.01$).

Conclusions: The morbidity of the new diagnosed hypertension is 17.4 percent in our city in which male is higher than female, chief IDH of male and SDH of female. Mean FBS of IDH is lower than which in groups of SDH and ISH, and do not higher than control group. It is its characteristic of the mean of TG and VLDL-C are all higher than which in groups of SDH and ISH. To treat different subtypes of hypertension, we should not only take active antihypertensive treatment, but take various intervention studies, proper dietary structure and sport-related physical fitness. And blood glucose, lipid and weight should be control to prevent cardiovascular disease.

GW25-e4480

The risk factors analysis and follow-up study of prehypertensive diabetic patients

Wang Zhijun, Li Hai-Tao, Wu Shou-Ling

Department of Cardiology, Affiliated Hospital of Hebei United University

Objectives: To analyze the prevalence and risk factors of prehypertension among normal blood pressure diabetic patients. To assess the renal function of prehypertensive diabetic patients. To compare the cumulative incidence of hypertension between prehypertension and normal blood pressure groups after 5 years followed up and analyze risk factors of it in prehypertensive diabetic patients.

Methods: A combination methods of retrospective and prospective analysis was applied to carried out the study. 3481 type 2 diabetes with normal blood pressure were selected as the research object and divided into the normal blood pressure and prehypertension groups according to their level of blood pressure. To analyze the prevalence, risk factors and renal damage of prehypertensive diabetic patients. These patients were followed up for five years and the cumulative incidence of hypertension were analyzed. Risk factors for hypertension in prehypertensive diabetic patients were evaluated. Excel software was applied for databases and SPSS13.0 software was applied for statistical analysis.

Results: Among 3481 normal blood pressure patients with diabetes, 943 patients (27.1%) belong to the normal blood pressure group and 2538 patients (72.9%) belong to prehypertension group. 2855 cases (82.0%) were male and 626 cases (18.0%) were female. The range of their aged was from 22 to 91 years old and their average age was (57.4±10.6) years old. Results of single factor analysis showed that prevalence of prehypertension in male and female patients was 74.2% (2117/2855) vs 67.3% (421/626), in snoring and not snoring patients was 74.8% (1577/2108) vs 70.0% (961/1373), in the smoking and nonsmoking patients was 74.4% (1727/2320) vs 69.9% (811/1161). Their difference were significant. The TG level of normal blood pressure group and prehypertension group was $1.87±1.51$ vs $2.17±1.94$ mmol/L. The LDL-C level of two groups was (2.36±0.89) vs (2.64±1.10) mmol/L. The body mass index (BMI) levels was (24.62±3.27) vs (25.53±3.23) kg/m². Their difference were significant ($t=-4.697$, -7.578 , -7.313 , $P<0.01$). Results of multivariable logistic regression analysis showed that factors including male, snoring, smoking, high levels of TG, LDL-C and BMI were associated with prehypertension. The prevalence of renal insufficiency in prehypertensive and normal blood pressure diabetic patients was 38.3% vs 33.5% and the difference was significant ($X^2=6.761$, $P<0.05$). The 5-years cumulative incidence of hypertension in prehypertensive and normal blood pressure diabetic patients was 35.8% (885/2471) vs 22.0% (198/899) and the difference was significant ($P<0.05$). The cumulative incidence of hypertension in male and female prehypertensive diabetic patients was 36.7% vs 31.5% and that in overweight and not overweight prehypertensive diabetic patients was 39.4% vs 31.3%. Their difference were significant ($P<0.05$).

Conclusions: Male, snoring, smoking, high levels of TG, LDL-C and BMI were risk factors of prehypertensive diabetic patients. Prehypertension was a risk factor of renal insufficiency for diabetic patients. The 5-years cumulative incidence of hypertension in the prehypertensive diabetic patients was higher than that in normal blood pressure diabetic patients. Male and overweight were risk factors of 5-years cumulative incidence of hypertension in prehypertensive diabetic patients.

GW25-e4490

Percutaneous transluminal angioplasty of renal artery fibromuscular dysplasia

Xu Jianzhong^{1,2}, Tang Xiaofeng¹, Tao Bo¹, Zhu Limin¹, Li Hua¹, Gao Pingjin^{1,2}

¹Ruijin Hospital affiliated to School of Medicine, Shanghai Jiao Tong University,

²Shanghai Institute of Hypertension

Objectives: To evaluate clinical characteristics, the effect of percutaneous transluminal renal artery angioplasty (PTRA) and clinical follow-up from patients of renovascular hypertension results from renal artery fibromuscular dysplasia (FMD).

Methods: Between January 2009 and December 2013, 22 consecutive renal artery FMD patients (age 25±5yrs) underwent PTRA for poorly controlled hypertension. The patients were enrolled into this retrospective study after PTRA. Among them, all patients suffered hypertension and 9 presented resistant hypertension (40.9%), 15 presented secondary aldosteronism (68.1%), 2 presented intracranial abnormal vessels (9.1%). Office blood pressure, the serum creatinine level and

glomerular filtration rate (GFR) with 99mTc-DTPA were measured before the procedure and at follow-up.

Results: The technical success rate for primary PTRA was 100% (22/22) and the complication rate was 4.5% (1/22). Balloon angioplasty was performed in 18 and stent implantation in 4. Hypertension was finally cured in 54.5% (12/22) of the patients and improved in 45.5% (10/22) during the mean follow-up period of 6-48 months (mean 25±13months). There was a cumulative 9.1% (2/22) restenosis rate during the follow-up period. Office blood pressure was reduced by $41±17/21±16$ mmHg after PTRA (from $163±22$ to $122±15$ mmHg; $P<0.001$, and from $101±15$ to $80±10$ mmHg; $P<0.001$). While the serum creatinine levels remained unchanged ($75±25$ vs $74±21$ umol/L, $P=0.69$), a significant increase in ^{99m}Tc-GFR levels of lesion kidney was observed in 8 patients after PTRA ($25.2±4.8$ vs $39.4±8.2$ ml/min; $P=0.001$).

Conclusions: PTRA for clinically symptomatic renal FMD is technically and clinically successful and safe to perform.

GW25-e2317

Association study between NPPB gene polymorphisms and essential hypertension in Hainan Li-risk population

Yun Meiling¹, Wang Mingjun²

¹Hainan Medical University, ²Guiyang College of Traditional Chinese Medicine

Objectives: The aim was to investigate the association between NPPB gene and essential hypertension in Hainan Li - risk population.

Methods: Allele-specific PCR and direct sequencing in 107 cases of patients with essential hypertension of Li Nationality and 102 cases of healthy of Li Nationality, and RS198388 RS3753581 for NPPB gene polymorphisms were genotyped. Measurement data T test or analysis of variance test data, count data applications similarities and differences comparing the distribution of chi-square test to determine the relevance of the relationship between genotype NPPB gene RS3753581 and RS198388 with essential hypertension between genetic susceptibility, and gene genotyping performed Hardy-Weinberg equilibrium goodness of fit test.

Results: (1) hypertension group mean arterial pressure (MAP), creatinine (Cr) is higher than the normal control group, the difference was statistically significant ($P<0.05$), found no statistically significant difference in clinical indicators. (2) NN hypertension group NPPB gene RS3753581 polymorphic loci, NM, MM genotype frequency distributions were 89.7%, 7.5%, 2.8% in the control group NN, NM, MM genotype frequency distributions were 98.0%, 1.0%, 1.0%, and the distribution of the differences were statistically significant ($\chi^2=7.206$, $P=0.027<0.05$); experimental group NN hypertension group NPPB gene RS198388 polymorphic sites, NM, MM gene frequency distribution patterns were 73.8%, 19.6%, 6.5% in the control group NN, NM, MM genotype frequency distributions were 70.6%, 25.5%, 3.9%, genotype distribution and allele frequencies were not significantly of statistical significance ($\chi^2=1.556$, $P=0.459>0.05$). (3) The genotype distribution in the experimental group and the control group were NPPB gene RS3753581 the Hardy-Weinberg equilibrium ($P>0.05$), a representative sample; genotype distribution RS198388 experimental group and the control group were in line with polymorphic loci Hardy-Weinberg equilibrium ($P>0.05$), the sample is representative. (4) 8 cases of hypertensive patients RS3753581 heterozygous polymorphic loci, and found four bases upstream mutation insert CC, resulting in a large number of peaks after heterozygous mutations, frame shift mutations.

Conclusions: (1) NPPB gene polymorphisms with RS3753581 risk of Hainan of Li Nationality essential hypertension correlated ($P<0.05$). (2) NPPB RS198388 gene polymorphisms with essential hypertension Hainan of Li Nationality risk no correlation ($P>0.05$). (3) Genotypes RS3753581 and RS198388 NPPB gene polymorphism loci were the Hardy-Weinberg equilibrium ($P>0.05$). (4) 8 cases of hypertensive patients RS3753581 heterozygous polymorphic loci, and found mutations upstream of the insertion of a new mutation.

GW25-e1103

Clinical risk factors and early onset of maternally inherited essential hypertension

Chen Xi, Zhang Yusong, Lan Yunfeng, Li Xiaoqi, Wang Xuyun, Liu Yuqi, Yang Jie,

Li Zongbin, Gao Jinliao, Li Yang, Yin Tong

The Institute of Geriatric Cardiology of Chinese PLA General Hospital

Objectives: This study aimed to investigate the age at onset of maternally inherited essential hypertension (MIEH) and relative risk factors for MIEH.

Methods: Two hypertensive pedigrees [pedigree A (n=104) and pedigree B (n=19)] and sporadic hypertensive patients (n=154) with the characteristics of MIEH were recruited. Their demographic and clinical features were collected. The age at the onset of hypertension, as well as the hypertension related environmental and clinical risk factors were compared among the MIEH (n=36), non-MIEH (n=118) patients and normotensive controls (n=36).

Results: The age at the onset of hypertension in MIEH pedigree patients was decreasing by generation [For pedigree A: 62.0±6.2 years old in generation II (n=4), 46.3±5.8 in generation III (n=6), 23.3±2.9 in generation IV (n=4); For pedigree B: 58.0 in generation I (n=1), 48.3±7.6 in generation II (n=3), 37.5±0.7 in generation III (n=2)]. Among sporadic hypertensive patients, the average age at the onset of hypertension in MIEH patients was significantly lower than the patients with non-MIEH (47.8±10.3 vs. 58.2±11.4 years old, $P<0.01$). Significant difference could also be found between sporadic MIEH patients and normotensive controls for the hypertension related environmental and clinical risk factors, including body mass index