rs599839, rs464218 and rs6698443 SNPs and serum lipid levels and the risk of CAD and IS.

METHODS A total of 561 patients with CAD and 527 patients with IS were recruited from hospitalized patients in the First Affiliated Hospital, Guangxi Medical University. Blood samples were obtained from the patients and controls after at least 12 h of fasting. Genomic DNA was isolated from peripheral blood leukocytes using the phenol-chloroform method. The genotypes of 3 SNPs were detected in 561 CAD and 527 IS patients, and in 590 healthy controls was performed by Snapshot technology platform. All experimental manipulations were completed in the Center for Human Genetics Research, Shanghai General Hospital. CAD patients were evaluated by coronary angiography; CAD was defined as significant coronary stenosis (≥50%) in at least one of the three main coronary arteries or their major branches (branch diameter ≥ 2 mm). IS patients received a strict neurological examination and brain magnetic resonance imaging. The diagnosis of IS was according to the International Classification of Diseases (9th Revision).

RESULTS The genotype and allele frequencies of the rs599839, rs464218 and rs6698443 SNPs were no differences between the controls and CAD patients (P > 0.05). However, the genotype and allele frequencies of the rs599839 SNP were different between the controls and IS patients (P < 0.05). The minor G allele of rs599839 and rs464218 SNPs were associated with higher high-density lipoprotein cholesterol concentrations in CAD and IS patients (P < 0.05) after adjustment of age, sex, body mass index, blood pressure, alcohol consumption, and cigarette smoking; respectively. No association was found between the SNPs of rs599839, rs464218 and rs6698443 at the CELSR2-PSCR1-SORT1 and the risk of CAD or IS.

CONCLUSIONS The present study shows that the minor G allele of rs599839 and rs464218 SNPs is associated with high HDL-C concentrations in CAD and IS patients.

GW26-e1243 Inhibitory Effects of Hirudin on the Growth and Proliferation of Human Coronary Artery Smooth Muscle Cells and Endothelial Cells in Vitro

Hongmei Li,1 Mengqiong Sun,1,2 Ang Gao,1,2 Zhen Wang,1,2 Xueqin Yang,1,2 Tian Sun,1,2 Changbo Xuan,1,2 Xian Wang1,2
1Institute for Cardiovascular Disease, Beijing University of Chinese Medicine, Beijing 100700, China; 2Key Laboratory of Chinese Internal Medicine of Ministry of Education and Beijing, Dongzhimen Hospital Affiliated to Beijing University of Chinese Medi

OBJECTIVES To prove the efficacy of hirudin and provide the experimental data for preventing restenosis, we investigated the inhibitory effects of different ratios of hirudin on the growth of human coronary artery smooth muscle cells (HCAEC) and endothelial cells (HCAEC) cultivated in vitro.

METHODS The 3-5 generations of HACMSC and HCAEC were respectively seeded onto 96-well plates, then co-incubated with different concentration of hirudin (0.25, 1.25, 0.57, and 0.125 mg/mL). Then cell viability was detected by methyl-thiazolotetrazolium (MTT) assay. We determined the optimal concentration range of hirudin for inhibiting the growth of HCAEC while promoting the growth of HACMSC.

RESULTS Compared to the blank control group, low dose of hirudin (0.025-0.1 mg/mL) did not apparently inhibit the growth of HACMSC (P > 0.05); Medium dose and high dose of hirudin (0.2-6.25 mg/mL) could obviously inhibit the growth of HACMSC (P < 0.05) and the inhibitory rate increased with the increase in the concentration of hirudin. Besides, compared to the blank control group, 0.025-3.13 mg/mL hirudin did not apparently inhibit the growth of HACMSC (P > 0.05). High dose of hirudin (6.25 mg/mL) could obviously inhibit the growth of HACMSC (P < 0.05) and 0.05-0.2 mg/mL hirudin could increase the growth of HCAEC.

CONCLUSIONS Medium dose and high dose of hirudin could obviously inhibit the growth of HACMSC and the inhibitory rate increased with the increase in the concentration of hirudin. Low dose of hirudin did not apparently inhibit the growth of HCAEC but could increase the growth of HCAEC.

GW26-e2447 The Physiology Monitor of Heart Rate on Gymnastic Exercise College Students

Xue Sun,1 Gao Feng,2 Jiali Cheng,1 Lijuan Hou1
PE and Life Science Department, Beijing Normal University; 2Beijing University of Posts and Telecommunications, Beijing

OBJECTIVES “The public physical education course” is one of the most important way for college students to do physical exercise for health, and reasonable arrangement of exercise can not only improve students’ physical fitness but also motivate their interest in physical exercise. This research aim to improve students’ physical fitness effectively and try to find weather the exercise load is suitable for college students.

METHODS Two classes’ college students of gymnastic exercise with total number of 60 were selected as research object and uses document literature, questionnaire method, mathematical statistics and experimentation methods. Physiology monitor mainly conclude three aspects, the first is the physiological supervision that is each time before the class give students polar HRM-RUN, and use the receiver and after class, take their HRM-RUN and record every student’s heart rate variation. On top of that, in the beginning and at the end of this semester test students’ strength quality (sit-up) and stamina quality (800m) and record data. The second is the psychological supervision, after each stage of exercise, we will issue PRE questionnaire to record students’ subjective feedback. The third is students’ consciousness of physical exercise, and at the end of semester, we will issue questionnaire to have a better understanding of students’ motivation and consciousness of physical exercise.

RESULTS Through research, we found that firstly in this pattern of physique lesson heart rate load intensity and heart rate scatter gram conform to students’ physiological character, which result in good fitness. At the beginning of this semester, they do sit-up 33.43 ± 8.0, and after exercise in this semester, they increase to 38.92 ± 8.0, sides, compared with the beginning 4.25 ± 1.25, it takes 4.08 ± 0.57 to run 800meters. It is obvious that this style class plays a good role in enhancing students’ strength quality and stamina quality. Secondly, in this pattern of physique lesson heart rate load intensity conforms to students’ physiological character, and through exercise in this semester it improves students’ cardiopulmonary level, which makes students’ heart rate decrease after aerobic exercise, for example, the average of HR is 142.82 ± 7.12b/min at the beginning, while at the end of this semester is 132.68 ± 3.12b/min.

CONCLUSIONS Involving physiological and psychological supervisory control in physical education curriculum is good for promoting the progress of the curriculum. Meanwhile, education of strengthening students’ physical exercise consciousness is an important way to improve their physical quality (31171138/31401018).

GW26-e1477 Effect of the JNK signal pathway on the differentiation of bone marrow mesenchymal stem cells into cardiomyocytes induced by the active principle regions of Yangxin Tongmai Decoction

Jinghui Zheng,1 Jian Liang,1 Shuang Luo,1 Weixiong Jian,2 Guilan Ning,1 Fasheng Wu,1 Zuling Jiang,1 Xia Chen,1 Xiaocong Ma,1 Mingdong Xu,1
1Department of Cardiovascular Medicine, Ruikang Hospital Affiliated to Guangxi University of Chinese Medicine; 2National Key Discipline of Traditional Chinese Medical Diagnostics, Hunan University of Chinese Medicine

OBJECTIVES To explore the effect of the JNK signal pathway on the differentiation of bone marrow mesenchymal stem cells (BMSCs) into cardiomyocytes induced by the active principle regions of the Yangxin Tongmai Decoction (apt-YTD).

METHODS Based on preliminary researches, the 5 active regions of the Yangxin Tongmai Decoction, including panaxasaponin, Tan-shinone Ia, panaxan, total alkaloids, and total volatile oil were extracted by water decoction and alcohol extraction and were used to induce the differentiation of rats’ BMSCs while the JNK signal pathway was blocked by SP600125, a cellular signaling pathway blocking agent. The expression of myocardial cell marker genes, such as GATA-4, NX 2.5 mRNA, Cx43 and cTn1 were then observed and recorded.

RESULTS The expression of GATA-4, NX 2.5 mRNA, Cx43 and cTn1 induced by the active principle regions of the Yangxin Tongmai Decoction was significantly inhibited at time windows of 7 days, 14 days and 28 days compared to the control group when the JNK signal pathway was blocked.

CONCLUSIONS The JNK signal pathway is involved in the differentiation of BMSCs into cardiomyocytes induced by apt-YTD.