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1. The Effects of Electroacupuncture on mRNA and Protein Expression of Placental Growth Factor and Flt 1 and Promotes Revascularization in the Brain After Focal Cerebral Ischemia/Reperfusion in SD Rats

WU Lei, LUO Yong, and ZHANG Shan-Shan

(Department of Neurology, the First Affiliated Hospital of Chongqing Medical University & Chongqing Key Laboratory of Neurology, Chongqing 400016, China)

[KEY WORDS] Electroacupuncture; Cerebral Ischemia/Reperfusion; Placental Growth Factor; Flt 1; Vascular Regeneration

[ABSTRACT] Aim: To investigate the mechanism of electroacupuncture (EA) effects on promoting revascularization in SD rats brain of focal cerebral ischemia/reperfusion by discussing the expression of placental growth factor (PLGF)/Flt 1 pathway after middle cerebral artery occlusion (MCAO). Methods: The SD rats received filament occlusion of the right middle cerebral artery for 2 h. SD rats were randomly divided into control group, model group and EA group. The modle group and EA group were divided into three subgroups according to accepting reperfusion 1 d, 3 d, 7 d after 2 h ischemia. After 1 h of the reperfusion, EA was bilateral “Hegu” point in the EA group. Immunohistochemical method was used to detect the expression of PLGF and
Flt 1 protein in the cortical ischemic region. RT PCR was used to detect the expression of PLGF and Flt 1 mRNA. Western blotting was employed to detect the expression of PLGF protein. Results: Compared with the control group, the mRNA and protein expression of PLGF and Flt 1 in the cortical ischemic region of the model group and EA group were significantly increased (P<0.05). Compared with the model group, the mRNA and protein expression of PLGF and Flt 1 in the EA group were significantly increased (P<0.05). Conclusion: EA may upregulate expression of PLGF, Flt 1 protein and PLGF, Flt 1 mRNA in the cortical ischemic region, and PLGF/Flt 1 may promote revascularization in the rats brain of focal cerebral ischemia/reperfusion.

2. Influence of Total Flavonoids of Epimedium on Adiponectin Receptors Expression in Hyperlipidemia Rats

XU Yu-Shun, SHEN Si-Yu, CAI Hui, and ZHAO Zhi-Ming

(School of Clinical Medicine, Southern Medical University & Nanjing General Hospital of Nanjing Military Command, Nanjing, Jiangsu 210002, China)

[KEY WORDS] Total Flavonoids of Epimedium; Hyperlipidemia; Adiponectin; Adiponectin Receptor

[ABSTRACT] Aim: To investigate the influence of total flavonoids of epimedium on adiponectin receptors expression in hyperlipidemia rats and the mechanism of protection in hyperlipidemia rats. Methods: 35 male SD rats were randomly divided into two groups: high cholesterol diet group (n=26) and control group (n=9). Rats
of high fat diet group were fed with high fat diet for 12 weeks, then 26 SD male rats were randomly divided into three groups: model group, high hyperlipidemia group with low dose total flavonoids of epimedium (100 mg/kg) group, hyperlipidemia group with high dose total flavonoids of epimedium (200 mg/kg) group. Serum lipid levels of all rats were measured and the aorta was taken for pathologic analysis. Serum adiponectin was detected by ELISA. The expression of both adiponectin receptor 1 (AdipoR1) and adiponectin receptor 2 (AdipoR2) on the aorta were analyzed by realtime PCR and Western blotting. Results: After 12 weeks of feeding, as compared with full diet group, the levels of triglyceride (TG), total cholesterol (TC) and low density lipoprotein cholesterol (LDLC) in high cholesterol diet groups were significantly increased (P<0.01), which indicated that the hyperlipidemia model was estimated. After 4 weeks’ treatment, as compared with high hyperlipidemia model group, the levels of TC, TG in total flavonoids of epimedium groups were obviously lower (P<0.05 or 0.01). Aortic intimal hyperplasia and smooth muscle cells proliferation in rats fed with high cholesterol diet were decreased in high hyperlipidemia with total flavonoids of epimedium groups. As compared with high hyperlipidemia model group, the serum levels of adiponectin with total flavonoids of epimedium were increased (P<0.05), moreover, these changes were more significant in high dose treated group (P<0.05), and the expression of both AdipoR1 mRNA and AdipoR2 mRNA were significantly increased (P<0.05 or 0.01), moreover, the expression of AdipoR1 mRNA were significant in high dose treated group. The expression levels of both AdipoR1 and AdipoR2 protein in total flavonoids of epimedium group were significantly higher than
that of hyperlipidemia model group. Conclusion: Total flavonoids of epimedium can reduce the levels of serum lipids, but increase the levels of serum adiponectin and the mRNA and protein expression of both AdipoR1 and AdipoR2 on the aorta in hyperlipidemia rats.

3. Rosuvastatin Inhibited the Expression of Thrombospondin 1 mRNA Induced by C Reactive Protein in Vascular Endothelial Cells

WANG Hai-Rong, ZHU Gang-Yan, CHEN De-Liang, ZHANG Lin, CHAO Sheng-Ping, GAN Xue-Dong, and XIONG Shi-Xi

(Department of Cardiology, Zhongnan Hospital, Wuhan University, Wuhan, Hubei 430071, China)

[KEY WORDS] C Reactive Protein; Thrombospondin 1; Human Vascular Endothelial Cells; p38 Mitogen Activated Protein Kinase

[ABSTRACT] Aim: Although C reactive protein (CRP) is widely used as an inflammatory marker of cardiovascular disease, statins showed a variety of additional effects that may contribute to their protective vascular benefit. However, it is not fully understood whether CRP exerts direct proinflammatory effects on human vascular endothelial cells (HUVEC). Methods: Thrombospondin 1 (TSP 1) plays a critical role in the development of atherosclerosis and thrombosis. Vascular endothelial cells were incubated with purified CRP at clinically relevant concentrations (5, 10, 20 and 40 mg/L). The protein and transcript levels of the TSP 1 were determined by ELISA and RT PCR
respectively. Also, the phosphorylation of p38MAPK was studied via Western blotting analysis. Results: In HUVEC, purified CRP significantly induced the protein release and mRNA expression of TSP 1 in a dose and time dependent manner respectively. SB203580 (a specific p38MAPK inhibitor) efficiently suppressed these effects of CRP as well as rosvastatin (10 $\mu$mol/L). CRP triggered the phosphorylation of p38MAPK signal transduction. Conclusion: CRP induces TSP 1 protein release and mRNA expression from vascular endothelial cells via activation of the p38MAPK signaling pathways, suggesting that CRP plays an important role in the propagation and prolongation of inflammation in vascular inflammation.

4. Effect of Edaravone on Adriamycin induced Myocardial Toxicity and Its Possible Mechanisms

LIN Lian-Zhi1, CHENG Fei2, ZHANG Hui3, YANG Zhen2, XU Suo-Wen4, and LIAO Xin-Xue2

(1. The Second People’s Hospital of Panyu, Guangzhou 511470, China; 2. Department of Hypertension and Vascular Disease, The First Affiliated Hospital, Sun Yat-sen University, Guangzhou 510080, China; 3. Department of Anatomy, Zhongshan School of Medicine, Sun Yat-sen University, Guangzhou 510080, China; 4. College of Pharmacy, Sun Yat-sen University, Guangzhou 510006, China)

[KEY WORDS] Edaravone; Adriamycin; Myocardial Protection; Oxidative
Stress; Apoptosis [**ABSTRACT**] Aim: To explore the effect of edaravone (EDA) on myocardial toxicity—induced by anthracycline antitumor adriamycin (ADR) and the mechanisms underlying. Methods: Primary cultured myocardial cells were treated with ADR at different concentrations as a cardiac toxicity model of anthracycline antitumor. EDA was administrated 1 h before ADR as pretreatment. Cell viability was measured by using cell counter kit (CCK 8). The level of intercellular reduced glutathione (GSH) was detected according to commercial kit. Intercellular reactive oxygen species (ROS) was observed by DCFH-DA staining and photofluorography. The expressions of Cytochrome C and cleaved Caspase 3 were detected by western blot.

Results: ADR at the concentrations from 1 to 8 mg/L for 24 h damaged myocardial cells in a dose dependent manner. Preconditioning of 5–20 \( \mu \text{mol/L} \) EDA protected myocardial cells against ADR induced injury, increasing cell survival rate. The preconditioning of EDA inhibited oxidative stress induced by 2 mg/L ADR, increasing the level of GSH and decreasing the content of ROS, and attenuated the expressions of Cytochrome C and cleaved Caspase3. Conclusion: EDA can attenuate the myocardial toxicity induced by ADR, which may be associated with its anti oxidation and anti apoptosis action.

**5. Low Osmotic Contrast Medium Ioxaglate and Iso osmotic Contrast Medium Iodixanol Show Different Influence on Platelet and Leukocyte Activation**

Ji Qiu-Shang1, Li Nai-Lin2, Zhang Yun1, and Liu Miao1
(1.Key Laboratory of Cardiovascular Remodeling and Function Research, Chinese Ministry of Education and Chinese Ministry of Public Health, Department of Cardiology, Qilu Hospital, Shandong University, Jinan 250012, China; 2. Department of Medicine, Clinical Pharmacology Unit, Karolinska University Hospital, SE 171 76 Stockholm, Sweden)

[KEY WORDS] Whole Blood Flow Cytometry; Platelet Activation; Leukocyte Activation; Platelet Leukocyte Aggregation; Contrast Medium; Ioxaglate; Iodixanol

[ABSTRACT] Aim: To elucidate the effect of low osmotic contrast medium ioxaglate and iso osmotic contrast medium iodixanol on platelet and leukocyte activation.
Methods: Hirudinized whole blood was incubated with 0%, 2%, 5% and 10% concentrations of ioxaglate or iodixanol at 37°C for 5 min. Whole blood flow cytometric method was used to measure P selectin, marker of platelet activation, CD11b, marker of leukocyte activation, and platelet leukocyte aggregates. Blood samples were also incubated with collagen with stirring to investigate the impact of contrast medium (5% of ioxaglate or iodixanol) on platelet leukocyte cross talk. Results: Ioxaglate had no effect on P selectin expression of unstimulated samples (P=0.237), whilst iodixanol mildly increased P selectin expression (P<0.01); However, both contrast media remarkably decreased 1 μmol/L adenosine diphosphate (ADP) induced P selectin expression (P<0.001), and ADP stimulated platelet leukocyte aggregates (P<0.001). Ioxaglate had effect on neither resting nor 0.1 μmol/L N formyl methionyl leucyl phenylalanine (fMLP) stimulated CD11b expression, whilst iodixanol mildly increased both resting and 0.1 μmol/L fMLP stimulated CD11b expression (P<0.05). Ioxaglate
inhibited collagen stimulated platelet induced CD11b expression (P<0.05), whilst iodixanol had no impact on platelet leukocyte cross talk. Both ioxaglate and iodixanol markedly reduced collagen stimulated platelet leukocyte aggregates ( P<0.01). Conclusion: Both ioxaglate and iodixanol can reduce ADP stimulated P selectin expression and platelet leukocyte aggregates. Yet, iodixanol slightly increases resting P selectin expression, and both resting and fMLP stimulated CD11b expression. As far as the influence on platelet and leukocyte activation is concerned, ioxaglate is safer than iodixanol when used clinically.

6. Baicalin Suppressed Inflammatory Reaction by Decreasing Nuclear Factor κ B and Soluble Monocyte Chemoattractant Protein 1 in Hyperlipidemia Rat

LI Xuan1, YAN Rong-Hua1, and PENG Jing2

(1. Department of Pathophysiology and Leptospirosis, 2. Department of Histology and Embryology, West China Medical Centre of Sichuan University, Chengdu, Sichuan 610041, China)

[KEY WORDS] Baicalin; Glomcrulus; Nuclear Factor κ B; Monocyte Chemoattractant Protein 1

[ABSTRACT] Aim: To access the effect and mechanisms of baicalin on expression of nuclear factor κ B (NF κ B) and monocyte chemoattractant protein 1 (MCP 1) in experimental atherosclerotic rat. Methods: High fat forage and vitamin D3 was given by intragastric administration, the experimental group was given baicalein solution 20
mg/ (kg · d) for four weeks. The blood lipid, plasma MCP1 and immunohistochemistry detection of NFκB on the renal glomerulus was performed. Results: The total cholesterol (TC) and low density lipoprotein cholesterol (LDLC) in the serum of rats decreased in the experimental group to 30% baseline values treated by baicalein. The hyperlipidemia markedly raised the activities and contents of MCP1 in plasma after modeling. Renal interstitium was hyperemic, the glomerular volume became extension, and NFκB was markedly expressed in the podocyte and tubular epithelial cells than that of the control group (P<0.01). Conclusion: Baicalein has the function of reducing the levels of LDL, reducing the NFκB activating in glomerular cells, reducing the performance of MCP1, and adjusting blood fat disorders and anti-inflammatory.

7. The Effects of Guanxinkang on aortic LXRα, ABCA1 Gene Expression in Atherosclerosis Rats

ZHANG Yi-Yi, and LIU Ping

(Longhua Hospital Affiliated to Shanghai University of Traditional Chinese Medicine, Shanghai 200032, China)

[KEY WORDS] Atherosclerosis; Guanxinkang; ABCA1; LXRα; Signaling Pathway

[ABSTRACT] Aim: To study the possible mechanism of ABCA1 signaling pathway about atherosclerosis rats by Guanxinkang treatment. Methods: The SD atherosclerosis model rats were build by given high fat diet and vitamin D3, and the atherosclerosis rats were randomly divided into model group, Guanxinkang group and
simvastatin group, and the normal SD rats were used as a control group. Each group were given drugs and normal saline for 30 days. Serum lipids were tested by automatic biochemical analyzer, aortic pathology were observed by HE staining, LXRα and ABCA1 gene expression were detected by real time fluorescence quantitative PCR. Results: Compared with model group, serum LDL levels were reduced significantly in Guanxinkang group (P<0.05), cholesterol levels were declined in Guanxinkang group, but there was no significant difference (P>0.05). The rats thoracic aortic atherosclerotic plaques block formation were decreased in Guanxinkang group. Furthermore, LXRα and ABCA1 gene expression of the aortic were significantly increased in Guanxinkang group (P<0.05). Compared with the simvastatin group, blood lipid and LXRα and ABCA1 gene expression were similar in Guanxinkang group (P>0.05). Conclusion: Guanxinkang inhibited atherosclerosis progression by decrease of serum LDL levels, up regulation of aortic LXRα and ABCA1 gene expression in atherosclerosis rats.

8. The Role of Intrauterine Chronic Hypoxia on Blood Pressure in Offspring Rats

WANG Zhen-Hua1, HUANG Zi-Yang1, LV Guo-Rong2, and SU Rui-Juan2

(1. Department of Cardiology, 2. Department of Ultrasound, Second Affiliated Hospital of Fujian Medical University, Quanzhou 362000, Fujian, China)

[KEY WORDS] Intrauterine Chronic Hypoxia; Offspring Rats; Fetal Programming; Blood Pressure

[ABSTRACT] Aim: To investigate the effects of fetal intrauterine chronic hypoxia on
the blood pressure of offspring rats. Methods: Pregnant Sprague Dawley rats were subjected to hypoxia for 3 hours in low pressure cabin with an oxygen concentration of 10%±1% from day 7 to day 21 of pregnancy. The body weight, organs weight and blood pressure were determined in the offspring rats. Results: Fetal hypoxia offspring growth were retarded at birth (P<0.01) but had similar weight to controls at 20 days of age. There were significant declines in liver weight of offspring at birth and 20 days of age, and significant decreases in kidney weight of male offspring at 3 and 7 months of age (all P<0.05). Systolic blood pressures were significantly elevated in male hypoxia offspring rats at 5 and 7 months of age as compared with controls (all P<0.05), and aggravated with age. But it was not significantly different from controls in female hypoxia offspring rats. Conclusion: Intrauterine chromic hypoxia may be a stress factor for fetal programming in rat liver, kidney and vascular tissues. It can induce the increased blood pressure in the male offspring rats, which aggravated with age and displayed a gender related character.

9. Heat Shock Protein 70 Protected Against Oxidative Stress Induced Apoptosis in C2C12 Myogenic Cells by Upregulation of Bcl 2

ZHANG Bin1, DENG Hong-Bing2, ZHOU Bin2, TAN Si-Pin2, and JIANG Bi-Mei2

(1. Department of Histology and Embryology, 2. Department of Pathophysiology, Xiangya School of Medicine, Central South University, Changsha, Hunan 410078, China)
[KEY WORDS] C2C12 Myogenic Cells; Heat Shock Protein 70;Bcl 2;H$_2$O$_2$;Apoptosis

[ABSTRACT] Aim: To explore the effect of heat shock protein 70 (HSP70) on Bcl 2 expression and investigate the role of Bcl 2 in HSP70’s anti-apoptosis in C2C12 cells. Methods: Western Blotting were used to identify the expression of Bcl 2 in the C2C12 cells transfected with pcDNA3.1 HSP70 or HSP70’s antisense oligonucleotide. The apoptosis were analysed by flow cytometry in the HSP70 overexpressed C2C12 cells which were transfected with Bcl 2’s antisense oligonucleotide and then treated with H$_2$O$_2$ (0.5 mmol/L). Results: The expression of HSP70 and Bcl 2 was increased in the C2C12 cells transfected with pcDNA3.1 HSP70, but the expression of HSP70 and Bcl 2 was decreased in the C2C12 cells transfected with HSP70’s antisense oligonucleotide. In the HSP70 overexpressed C2C12 cells transfected with Bcl 2’s antisense oligonucleotide, H$_2$O$_2$ induced apoptosis rate was higher than that in the cells transfected with Bcl 2’s scramble oligonucleotide. Conclusion: HSP70 contributed to the upregulation of Bcl 2 expression; Bcl 2 played an important role in HSP70 mediated protection against H$_2$O$_2$ induced apoptosis.

10. Protective Effect of Silymarin on Cardiac Muscle in Diabetic Rats

WANG Lei-Lei, and WANG Guo-Xia

(Department of Pharmacology, Liaoning Medical College, Jinzhou 121001, China)

[KEY WORDS] Silymarin; Diabetic Cardiomyopathy; Transforming Growing Factor β 1; Matrix Metalloproteinases 9; Tissue Inhibitors of Matrix Metalloproteinase 1

[ABSTRACT] Aim: To investigate the protective effects of silymarin on cardiac muscle
in diabetic rats and explore its therapeutic mechanism. Methods: The SD rats were randomly divided into five groups: the normal control group, the diabetic model group, the low, middle, high doses of silymarin therapy group. The diabetic model was established following intraperitoneal injection of streptozocin with 60 mg/kg. Silymarin of 50, 100, 200 mg/kg was given to the low, middle, high doses of drug therapy group for 12 weeks. Fasting blood glucose, serum fructosamine and heart function were respectively measured. Semiquantitative expressions of transforming growing factor β 1 (TGF β 1), matrix metalloproteinases 9 (MMP 9) and tissue inhibitors of matrix metalloproteinase 1 (TIMP1) protein were determined by immunohistochemistry and Western Blotting. Results: Compared with the normal control group, fasting blood glucose, serum fructosamine of the diabetic rats were significantly upregulated (P<0.01). Left ventricular end diastolic pressure (LVEDP) were much higher (P<0.01), and left ventricular systolic pressure (LVSP), ±dp/dt max were declined significantly (P<0.01) by heart function measured. The protein expression of TGF β 1, MMP9, TIMP1 and MMP9/TIMP1 were significantly upregulated (P<0.01). Compared with the diabetic group, fasting blood glucose and serum fructosamine of silymarin therapy groups were significantly decreased (P<0.01). LVEDP were significantly declined (P<0.01), and LVSP, ±dp/dt max were elevated (P<0.01) by heart function measured. The protein expression of TGF β 1, MMP9, TIMP1 and MMP9/TIMP1 were significantly decreased (P<0.01). Conclusion: The expression of TGF β 1, MMP9, TIMP 1 are related to diabetic cardiomyopathy (DCM), Silymarin has protective effect on DCM through affecting the changes of indexes mentioned above.
11. Effects of Vaccination with Very Low Density Lipoprotein on Some Immunological and Biochemical Indicators in Neonatal Rats

YIN Cui-Ping, HOU Gui-Hua, FENG Yue-Qiu, KONG Feng, LIANG Ting, and WANG Shu-Mei (Department of Epidemiology and Health Statistics, School of Public Health, Shandong University, Jinan, Shandong 250012, China)

[KEY WORDS] Atherosclerosis; Very Low Density Lipoprotein; Immune Tolerance; Blood Lipids

[ABSTRACT] Aim: To study whether very low density lipoprotein (VLDL) vaccination in neonatal rats could induce immune tolerance against VLDL and explore the neonatal vaccination’s effects on blood lipids and endothelin. Methods: 40 Wistar male rats (weight 150~180 g) were selected, hyperlipidemic rats were built, VLDL were distilled by density gradient centrifuge and the protein content was measured. The neonatal Wistar male rats were selected within 4 hours and divided into two groups randomly, while VLDL group was intraperitoneally injected 0.3 mg VLDL and control group saline. After 3 weeks, part of rats with VLDL were challenged, the serum anti VLDL was measured. Then the rest of rats were given high fat diet for 60 days, the capacity of T cell proliferation, the level of serum lipids and the level of serum endothelin were measured respectively. Results: Compared with control group, serum anti VLDL and the capacity of T cell proliferation in VLDL group were significantly reduced (P<0.05). There were no significant difference on serum lipids and endothelin between
the two groups. Conclusion: Neonatal VLDL vaccination could induce specific immune tolerance.

12. Rosiglitazone Alleviates Intimal Hyperplasia of Jugular Vein Graft after Autologous Transplantation in Rats

HAN Lu1, XIU Zong-Yi2, and ZHANG Ji-Zhuo1

(1. Beijing Shijitan Hospital, Beijing 100038; 2. The First Hospital of China Medical University, Shenyang, Liaoning 110001, China)

[KEY WORDS] Coronary Artery Bypass Grafting; Peroxisome Proliferator Activated Receptor γ; Rosiglitazone; Jugular Vein

[ABSTRACT] Aim: To observe the intimal hyperplasia of peroxisome proliferator activated receptor γ (PPARγ) agonist rosiglitazone on vein graft. Methods: Jugular veins graft model of rats were established. 16 rats were divided into rosiglitazone group and model group randomly (8 in each group), rosiglitazone was used in rosiglitazone group. The weight of rats, hyperplasia endomembrane on light microscope, RT PCR result of electrophoresis were observed after six weeks. Results: The weight in model group (521.6 ± 22.3 g) was increased compared with in rosiglitazone group (457.3 ± 25.3 g, P < 0.05). Hyperplasia endomembrane in rosiglitazone group was 25.99 ± 3.31 μm and 35.28 ± 5.76 μm in model group compared with normal vein. Expression of PPARγ mRNA in rosiglitazone group (1.12 ± 0.28) was increased compared with model group (0.68 ± 0.20, P < 0.05). Conclusion: PPARγ agonist rosiglitazone alleviates
intimal hyperplasia of vein graft after autologous transplantation in rats.

13.Expression of Urotensin II on Vascular Epithelium in Smoked Rat Brain

LIU Fei1, LIU Zong-Lan2, and WANG Yi-Sha1

(1.Department of Neurology, Shenzhou Hospital of Shenyang Medical College, Shenyang, Liaoning 110002; 2. Department of Neurology, the First Hospital of China Medical University, Shenyang, Liaoning 110001, China)

[KEY WORDS] Cerebral Infarction; Urotensin II; Smoking; Endothelial Cell

[ABSTRACT] Aim: To observe expression of urotensin II (U II) on vascular epithelium in smoked rat brain, and to discuss the mechanism of ischemia in brain caused by smoking. Methods: 60 health Wistar rats were divided into 6 groups: normal group, short time and big dose smoking group, long time and big dose smoking group, long time and small dose smoking group, giving up smoking group, control group. We obtained brain following experiment ending and observed expression of U II in smoked rat by immunohistochemistry stain. Results: The expression of U II in normal group and control group was weak. The significant different expression was observed in other groups (P<0.05). Giving up smoking can reduce the expression of U II. Conclusion: Smoking can make more U II expression in endothelial cell. There is prominent dose dependent and time dependent relationship between smoking and expression of U II. Giving up smoking can reduce expression of U II. The increase of U II plays an important role in ischemic cerebral vascular disease (ICVD) caused by smoking.
14. Serum Soluble Lectin Like Oxidized Low Density Lipoprotein Receptor1 Correlates with Coronary Lesion Complexity in Patients with Stable Angina

ZHU Xue-Li, ZHAO Zi-Wen, FANG Jun, CAI Wei, WU Li-Ming, and CHEN Liang-Long

(Fujian Institute of Coronary Artery Disease & Union Hospital, Fujian Medical University, Fujian, Fuzhou 350001, China)

[KEY WORDS] Stable Angina; Soluble Lectin Like Oxidized Low Density Lipoprotein Receptor1; Coronary Lesion Complexity; Vulnerable Plaque

[ABSTRACT] Aim: To assess whether levels of serum soluble lectin like oxidized low density lipoprotein receptor1(sLOX1) are correlated with angiographic coronary lesion complexity in patients with stable angina pectoris(SAP), and evaluate the value of sLOX1 in early prediction of the vulnerable coronary atherosclerotic plaque. Methods: Levels of sLOX1 were measured in 108 stable angina pectoris patients (46 with simple coronary lesions and 62 with complex coronary lesions). Coronary lesions were classified as of simple or complex appearance. Gensini score system was used to measure the severity of coronary artery disease; Enzyme linked immunosorbent assay(ELISA) was used to measure sLOX1 levels. Results: sLOX1 levels were significantly higher in stable angina pectoris patients with complex coronary lesions [1.12(0.34~1.68) μg/L, n=62] than those with simple lesions [0.28(0.14~0.64) μg/L, n=46] (P<0.05). Polytomous Logistic regression analysis demonstrated that serum sLOX1 level was independently associated with complex lesions (odds ratio 2.99, 95% confidence interval 1.47 to 6.08, P=0.003). Pearson correlation analysis showed a
positive correlation between log (sLOX1) and log (Gensini Score) (correlation coefficient=0.458 ,P<0.05). 1.10 µg/L is the critical value of serum sLOX1 in the diagnosis of stable angina with sensitivity of 54.8% and specificity of 93.5% (P<0.05).

Conclusion : Serum sLOX1 level is related to coronary lesion complexity in patients with stable angina pectoris which may be an independent risk factor for prediction of coronary plaque vulnerability and rupture.

15. The Relationship Between Serum Total Bilirubin and Artery Intima Medial Thickness in Newly Diagnosed Type 2 Diabetes Patients

RONG Guang, TANG Wei-Li, and ZHOU Zhi-Guang

(The Metabolism and Endocrinology Research Institute, Central South University, Changsha, Hunan 410011, China)

[KEY WORDS] Type 2 diabetes; Serum Total Bilirubin; Intima Medial Thickness

[ABSTRACT] Aim : To investigate the relationship between the concentration of serum total bilirubin and artery intima medial thickness(IMT) in newly diagnosed type 2 diabetes patients. Methods : 357 newly diagnosed type 2 diabetes patients(age 35~70, duration ≤ 1 year) were recruited, 178 patients with higher IMT and 179 patients with normal IMT, and then clinical feature and serum total bilirubin were compared in the two groups. Based on the concentration of serum total bilirubin these patients were divided into four groups: lowest bilirubin group, lower bilirubin group, higher bilirubin group, highest bilirubin group, and patients’ common carotid artery (CCA) IMT,
common iliac artery (CIA)IMT, femoral artery (FA)IMT and the incidence rate of plaque were compared in four groups. Serum total bilirubin and other factors related to diabetic subclinical atherosclerosis were analyzed by multiple stepwise Logistic regressive analysis. Results: The concentration of serum total bilirubin of the IMT thickening group was significantly lower than that of the IMT normal group (P<0.05). Among the four groups which were divided based on the concentration of serum total bilirubin, the lowest bilirubin group’s CCA IMT, CIA IMT, FA IMT, the incidence rate of plaque and higher IMT was the highest in the four groups, and was significantly higher than highest bilirubin group’s (P<0.01). To define the independent association between serum total bilirubin and diabetic artery IMT, the multiple stepwise Logistic regressive analysis was used. Serum total bilirubin, but not other parameters, was related independently and significantly with higher IMT, so did age and systolic hypertension. Conclusion: The study suggested that serum total bilirubin was probably an independent risk factor for higher IMT in newly diagnosed type 2 diabetes.

16. High Sensitivity C Reactive Protein and Silent Myocardial Ischemia in Essential Hypertension

ZHANG Li1, LIU Feng2, ZOU Rong1, and WEI Wei-Min1

(1. Department of Cardiology, Boji Hospital, Sun Yat-sen University, Zengcheng, Guangdong 511300, China; 2. Department of Geriatric, The First Municipal People’s Hospital of Guangzhou, Guangdong 510180, China)
[KEY WORDS] High Sensitivity C Reactive Protein; Essential Hypertension; Silent Myocardial Ischemia

[ABSTRACT] Aim: To assess the relationship between serum high sensitivity C reactive protein (hs CRP) and silent myocardial ischemia (SMI) in essential hypertension. Methods: We designed a cross sectional study with 157 mild or moderate essential hypertension patients having no known coronary heart disease (CHD). Ischemia was assessed by exercise treadmill testing and coronary arteriography. 157 patients were separated into SMI group (n=69) and control group (n=88). Blood was collected for measurement of hs CRP concentrations in all enrolled patients. Results: A total of 69 patients (43.9%) was found to have SMI. Compared with control group, higher hs CRP levels were observed in SMI group [(3.13±1.55) mg/L vs (1.33±0.91) mg/L, P<0.001]. Logistic regression analysis revealed gender (OR=9.56, 95% CI=2.57~35.60, P=0.001), hs CRP (OR=4.54, 95%CI=2.47~8.35, P<0.001) and family history of CHD (OR=0.11, 95% CI=0.03~0.34, P<0.001) to be associated with greater risk of SMI. A significantly increasing trend of SMI was observed with increasing serum levels of hs CRP (P<0.01). Conclusion: Hs CRP was associated with SMI. Essential hypertension with SMI are at high risk and need aggressive treatment. Hs CRP might help to detect SMI in patients with essential hypertension.

17. The Relationship Between Ambulatory Blood Pressure Monitoring (ABPM) Parameters and Carotid Artery Intima Media Thickness (CA IMT) in Elderly
**Hypertensive Patients** ZOU Shuai, GAO Da-Zhong, YANG Shuang, and YIN Yue-Hui

(Department of Cardiology, The Second Affiliated Hospital of Chongqing Medical University, Chongqing 400010, China)

**KEY WORDS** Elderly Hypertension;Coronary Disease;Ambulatory Blood Pressure Monitoring;Carotid Artery Intima Media Thickness

**ABSTRACT** Aim: To discuss the relationship between ambulatory blood pressure monitoring (ABPM) parameters and carotid artery intima media thickness (CA IMT) in elderly hypertensive patients. Methods: According to the results of carotid artery ultrasound examination the 205 patients divided into three groups: the patient were classified into the non increased IMT group (control group) (IMT < 1.0 mm), the increased IMT group (1.0 mm < IMT < 1.2 mm) and the increased IMT with plaque group (plaque group). The 24h ambulatory blood pressure monitoring (ABPM) was used to record 24 hSBP, 24 hDBP, dSBP, dDBP, nSBP, nDBP, 24 hPP, dPP, nPP and the percent of the dippers or non-dippers of hypertensive patients, and the percent of patients with coronary heart disease. The mean IMT, 24 hSBP, dSBP, nSBP, 24 hPP, dPP, nPP and the incidence of coronary heart disease were analysed to make correlation. Results: 24 hSBP, dSBP, nSBP, 24 hPP, dPP, nPP were significantly higher in plaque group than those in the increased IMT group and control group. There have significantly difference (P < 0.05). The incidence of coronary heart disease were 42.1% in the non-increased IMT group, 53.1% in the increased IMT group, 89.5% in the increased IMT with plaque group. The percent of dippers was 54.3%, 62.9%, 77.6% in each group. Which had significantly difference (P < 0.05). The mean IMT had a positive correlation with 24hSBP, dSBP, nSBP,
24hPP, dPP, nPP and the incidence of coronary heart disease 
(r=0.487, r=0.514, r=0.469, r=0.448, r =0.492, r=0.435, r=0.878, P<0.05). Which had 
significantly difference (P<0.05). Conclusion: The rising of 24 hSBP, nSBP, 24 hPP, 
nPP and patients who have lost the normal dipper rhythm of ambulatory blood 
pressure obviously will lead to the increase of IMT and the rising of plaque formation, 
which had a good correlation with the occurrence of coronary heart disease.

18. The Relationship Between Osteoprotegerin and Brain Natriuretic Peptide 
Levels and Degree of Coronary Disease in Patients with non ST Elevation Acute 
Coronary Syndrome

LUO Zhu-Rong, ZHENG Wei-Xing, ZHANG Ke-Ji, ZHENG Lei-Lei, XU Gao-Yang, LIN Yi, 
and GAI Xiao-Bo

(Department of Cardiology, Fuzhou General Hospital of Nanjing Army & Cardiology 
Division of Clinical Department, Fuzhou General Hospital of Fujian Medical University, 
Fuzhou, Fujian 350025, China)

[KEY WORDS] non ST Elevation Acute Coronary Syndromes | Coronary Artery Disease Extension | Osteoprotegerin | Brain Natriuretic Peptide

[A ABSTRACT] Aim: To analyse osteoprotegerin (OPG) and brain natriuretic peptide 
(BNP) levels in patients with non ST elevation acute coronary syndrome (NSTE ACS), in 
relation to clinical presentation and to coronary coronary artery disease. Methods: 
192 consecutive patients were classified into three groups: stable angina (SA) group,
unstable angina/non ST elevation myocardial infarction (NSTE ACS) group and control group. OPG and BNP levels were measured. OPG and BNP were compared in relation to the number of coronary artery disease, and to the stenoses degree by Gensini score. Results: OPG levels were higher in all coronary artery disease patients compared to controls (P<0.01), however NSTE ACS patients had higher OPG level with respect to SA patients (P<0.01). BNP levels were higher in NSTE ACS patients compared to controls and SA patients (P<0.01). BNP levels was significantly higher in multivessels compared with 1 vessel disease (P<0.01). A positive relation was found between OPG levels and Gensini score (r=0.64, P<0.001). Only a mild correlation was found between BNP and Gensini score (r=0.45, P<0.01). Multiple regression analysis showed that OPG and BNP levels were independently and positively associated with the presence of coronary disease (P<0.01). Conclusions: NSTE ACS patients show high OPG levels. OPG is related to the number of coronary artery disease, which suggest its involvement in the coronary artery disease progression. BNP is also increased during NSTE ACS and more associated to the scope and severity of ischemia.

19.Clinical Observation of Donepezil on Improving Cognitive Impairment After Stroke LIU Li-Yan, CHANG Huan-Xian, WANG Yi-Cui, and ZHUANG Jian-Guang.
（Dongfang Hospital, The First People’s Hospital of Lianyungang, Lianyungang 222042, China.）

[KEY WORDS] Donepezil; Stroke; Cognitive Impairment
[ABSTRACT] Aim: To observe the efficacy and safety of donepezil on improving cognitive impairment after stroke. Methods: 86 patients with cognitive impairment after stroke were randomly divided into treatment group (44 cases) and control group (42 cases). The treatment group were treated with donepezil hydrochloride capsules on the basis of the conventional therapy, 5 mg, qd, after 4 weeks, increasing to 10 mg, qd. The control group were treated with piracetam on the basis of the conventional therapy, 800 mg, tid orally. Two groups were treated for 12 weeks. Cognitive function and activities of daily living score of 2 patients were detected before and after treatment. Results: After treatment, significant improvement rate and total effect of the treatment group were significantly higher than that of the control group (P<0.05), mini mental state examination MMSE, visual recognition, image memory, digit span and the 100 → 1 score of the treatment group were significantly higher than before treatment and the control groups (P<0.05 or P<0.01), ADL scores of the treatment group were significantly lower than before treatment and the control groups (P<0.05 or P<0.01), There was no significant difference between before and after treatment in visual recognition, image memory, digit span and the 100 → 1 score of the control group (P>0.05). There was significant difference between before and after treatment in MMSE, ADL of the control groups. Donepezil side effects were minor. Conclusions: Donepezil significantly improved cognitive function after stroke, and activities of daily living in patients with high security.