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3. Effect of Endothelin 1 and BQ 123 on Adenosine Triphosphatase Activity and mRNA Expression in Aortic Smooth Muscle Cells from Spontaneously Hypertensive Rats. YANG Zheng, SHANG Qian-Hui, WU Qin, and QIU Min. CHINESE JOURNAL OF ARTERIOSCLEROSIS. 2010;18(17): 514

4. Effect of Propolis on Reverse Cholesterol Transport in Mice in Vivo. SI Yan-Hong, YU
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7. ATP Inhibits the Proliferation of Human Umbilical Vein Endothelial Cell and Its Possible Mechanism. XIAO Zhi-Lin, YANG Mei, CHEN Mei-Fang, CHEN Xiao-Bin, FANG Li, XIE Xiu-Mei, and HU Jin-Yue. CHINESE JOURNAL OF ARTERIOSCLEROSIS. 2010;18(17): 532


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15. Hemodynamic Changes in Patients with Unilateral Vertebral Artery Occlusion. ZHOU Ying-Hua, HUA Yang, JIA Ling-Yun, LING Chen, DUAN Chun, LIU Qiang,and ZHANG Lei. CHINESE JOURNAL OF ARTERIOSCLEROSIS. 2010;18(17): 566


17. The Relationship Study Between Cathepsin S and Atherosclerosis in Diabetes.TAN Qing-Ling CHINESE JOURNAL OF ARTERIOSCLEROSIS. 2010;18(17): 574

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1. Elevated Expression of Urotensin II and Its Receptor in Vascular Calcification
of Rats

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[KEY WORDS] Urotensin II; Urotensin II Receptor; Vascular Calcification; Rats

[ABSTRACT] Aim: To investigate the expression of urotensin II (U II) and its receptor (UT) in the aorta and myocardium in a rat model of vascular calcification, and explore the significance of U II system in vascular calcification. Methods: Arterial calcification of Sprague Dawley rats was induced by Vitamin D3 plus nicotine (VDN). Calcification was confirmed by Von Kossa staining and measurement of calcium content. Alkaline phosphatases (ALP) activity was also evaluated. U II contents of plasma, aorta and myocardium were determined by radioimmunoassay, U II immunoactivity and UT mRNA expression were determined by immunohistochemistry and RT PCR, respectively. Results: There were mass black granules deposited in aortic wall of the vascular calcified rats induced by VDN, with Von Kossa staining. Calcium content and ALP activity in calcified aorta of these rats were increased significantly than the control rats. Meanwhile, aortic U II and UT mRNA levels in calcified rats, as well as myocardial UT mRNA level, were upregulated significantly compared with the
control group. In addition, high arginine diet could reduce the degree of vascular calcification by Von Kossa staining. Calcium contents, U II contents, and UT mRNA levels were slightly lower, but not significantly in the VDN plus arginine rats than in the VDN treated rats. Furthermore, VDN plus high methionine diet treatment could exacerbate vascular calcification. Aortic calcium contents, as well as aortic and myocardial U II contents and UT mRNA expression, were further increased, while aortic ALP activity was decreased in the VDN plus methionine rats than in the calcified rats induced by VDN. There were no significant differences in plasma U II contents among these groups. Conclusion: This study found that U II /UT system was significantly increased in calcified vessels, suggesting that U II may be involved in the development of vascular calcification, in a paracrine and/or autocrine manner.

2. Effect of 2,3,5,4′ Tetrahydroxystilbene Glucoside on the Expression of NF-κ B and TNF α in Human Umbilical Vein Endothelial Cell Injured by H2O2

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[KEY WORDS] Tetrahydroxystilbene glucoside (TSG); Human Umbilical Vein Endothelial Cells; Hydrogen Peroxide; Oxidative Stress; NF-κ B

[ABSTRACT] Aim: To study the protective effect of tetrahydroxystilbene
glucoside (TSG) on human umbilical vein endothelial cells (HUVEC) injury induced by H$_2$O$_2$ and explore the related mechanism of action. Methods: HUVEC were treated with TSG (0.1, 1, 10 μmol/L) for 4 hours then exposed to 200 μmol/L H$_2$O$_2$ for 24 hours. Cell viability was determined by electron microscope observation and MTT assay. Gene expression of NF-κ B, Iκ B and TNFα were measured by RT PCR. Protein levels were examined by Western blot and ELISA. Results: Induced by H$_2$O$_2$, proliferation of HUVEC were inhibited. After treated by different concentrations of TSG, the proliferation of HUVEC were increased compared with the model group, the expression of NF-κ B and TNFα were remarkably down regulated (P<0.01), and there were no effect for the expression of Iκ B. Conclusion: TSG have a protective effect on the HUVEC impairment induced by H$_2$O$_2$, and the potential mechanism of action may be associated with downregulating the expression of NF-κ B and TNFα.

3. Effect of Endothelin 1 and BQ 123 on Adenosine Triphosphatase Activity and mRNA Expression in Aortic Smooth Muscle Cells from Spontaneously Hypertensive Rats

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[KEY WORDS] adenosine triphosphatase; aortic smooth muscle cell; ET 1; BQ 123

[ABSTRACT] Aim: To study the effects of endothelin 1 (ET 1) and BQ 123 on activity and mRNA expression of adenosine triphosphatase (ATPase) in Aortic Smooth muscle cells (ASMC) from spontaneously hypertensive rats (SHR) and Wistar Kyoto (WKY) rat. Methods: The ASMC were isolated from SHR and WKY rats. ATPase activity in cultured ASMCs were determined by spectrophotography and mRNA level of Na+, K+ ATPase α 1 subunit, PMCA1 were measured by semiquantitative reverse transcription polymerase chain reaction (RT PCR). Results: ET 1 significantly attenuated activity of two kinds of ATPase (P<0.01) and PMCA1 mRNA expression (P<0.01) in ASMC from SHR. BQ 123 increased two kinds of ATPase activity (P<0.01) and upregulated expression of PMCA1 mRNA (P<0.01), which treated by ET 1. The level of Na+, K+ ATPase α 1 subunit mRNA expression had no alteration after intervened by ET1 (P>0.05). Conclusion: ET 1 suppressed Na+, K+ ATPase, Ca2+ ATPase activity, which may be mediated by ETA receptor. The influence of ET1 Ca2+ ATPase activity may play in the transcriptional level. BQ 123 reversed the effect of ET 1 on the activities of SHR ASMCs Na+, K+ ATPase and Ca2+ ATPase by blocking the ETA receptor.

4. Effect of Propolis on Reverse Cholesterol Transport in Mice in Vivo
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[KEY WORDS] Reverse Cholesterol Transport ; Propolis ; Mice

[ABSTRACT] Aim: To explore the effect of propolis on reverse cholesterol transport in mice in vivo. Methods: Fourteen C57BL/6 male mice were divided into 2 groups, which were treated with either vehicle or propolis. After 4 weeks, Mice were bled from the retro orbital plexus and plasmas lipid profiles were determined by enzymatic method. Then mice were injected intraperitoneally with 3H cholesterol–labeled and cholesterol loaded macrophages (6 \times 10^6 cells containing 5.9 \times 10^5 cpm in 0.5 mL medium) and monitored for the appearance of 3H tracer in plasma, liver, feces and adrenal. Results: In contrast to the control, the levels of high density lipoprotein cholesterol (HDLC) and total cholesterol (TC) in plasmas of the propolis group were increased by 39% and 29%, while the levels of low density lipoprotein cholesterol (LDLC) and triglyceride (TG) had no significant changes. After intraperitoneally injected, the appearance of 3H tracer in plasma of propolis group was rapid, with a 2.9 fold increase at 6 hours and a 1.7 fold increase at 24 hours compared with the control group. The appearance of 3H tracer in the liver and feces were decreased by 39% and 60%, respectively. The appearance of 3H tracer in the two adrenals was increased
apparently by 84%. Conclusion: Propolis can promote cholesterol efflux from the peripheric macrophages and utilization in the adrenals in mice in vivo.

5. Apoptosis of Human Umbilical Vein Endothelial Cells Induced by Fluctuated Hyperglycemia Is Associated with Adiponectin Receptor1

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[KEY WORDS] Cell Apoptosis; Human Umbilical Vein Endothelial Cell; Adiponectin Receptor1; Fluctuated High Glucose; Globular Adiponectin

[ABSTRACT] Aim: To study the mechanism of human umbilical vein endothelial cells (HUVEC) apoptosis induced by fluctuated hyperglycemia. Methods: HUVEC were cultured in different conditions: control group, high glucose group, alternating high glucose group, high osmotic group, and alternating high osmotic group. Alternating high glucose groups were affected by different concentrations of globular adiponectin (gAD), or by small interfering RNA (siRNA). Annexin V FITC/PI double staining was used to detect apoptosis. RT PCR was used to detect adiponectin receptor 1 (AdipoR1) mRNA and adiponectin receptor 2 (AdipoR2) mRNA. Results: Compared with control group, cells apoptosis was increased, and expression of AdipoR1 mRNA was decreased in both high glucose group and alternating high glucose group (P<0.01). Cells apoptosis was increased, and expression of AdipoR1...
mRNA was decreased in alternating high glucose group compared with high glucose group (P<0.01). 3 mg/L gAD protected against cell apoptosis compared with groups without gAD(P<0.01). gAD counteracted the decreasing expression of AdipoR1 mRNA induced by fluctuated hyperglycemia (P<0.01). But expression of AdipoR2 mRNA had no difference among them. Conclusion: That gAD protected cell apoptosis induced by fluctuated hyperglycemia is associated with AdipoR1, but is not associated with AdipoR2.

6. Gambogic Acid Inhibits Cell Proliferation via Suppressing Epithelial Growth Factor Receptor Tyrosine Phosphorylation in Rat Aortic Smooth Muscle Cell

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[KEY WORDS] Gambogic Acid; Epithelial Growth Factor Receptor; Tyrosine Phosphorylation; Vascular Smooth Muscle Cell

[ABSTRACT] Aim: To investigate the effects of gambogic acid (GA) on rat vascular smooth muscle cell (VSMC) proliferation and migration stimulated by epithelial growth factor (EGF) and its underlying molecular mechanism. Methods: The inhibitory effect of GA at various concentration on the proliferation induced by EGF was measured by
using CCK8 assay and 3H thymidine incorporation. The effects of GA on the cell cycle progression stimulated by EGF were analyzed by flow cytometry. The effect of GA EGF receptor (EGFR) and pi Tyrosine was measured by Western blotting. The capacity of GA binding with EGF was also measured. Results: GA inhibited EGF induced 3H thymidine incorporation into DNA and proliferation on VSMC. The cell cycle progression was blocked significantly in the GA pretreated cells. GA significantly inhibited expression of pi EGFR, pi Tyrosine stimulated by EGF compared with the control group without GA. Dot binding assay shown that a negative binding signal was detected on the GA and BSA spot incubated with EGF. Conclusions: These observations show that inhibition effects on VSMC proliferation of GA are mediated by the inhibition of EGFR tyrosine phosphorylation. The inhibitory effects of GA are due to directly tyrosine phosphorylation inhibition, rather than binding with EGF.

7. ATP Inhibits the Proliferation of Human Umbilical Vein Endothelial Cell and Its Possible Mechanism

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[KEY WORDS] ATP; Human Umbilical Vein Endothelial Cell; Cell Proliferation; P2Y2,
11；CyclinB1

[ABSTRACT]  Aim：To observe the effect of extracellular nucleotide ATP on proliferation activity and biological function of human umbilical vein endothelial cell (HUVEC), and to explore its possible mechanism. Methods CK 8 reagent kit was used to detect the effect of ATP intervening of different concentrations (0, 1, 5, 10, 50, 100 μmol/L) and different time point (1–6 day) on proliferation of HUVEC; Flow cytometry was performed to detect apoptosis and cell cycle phase after treated with ATP as above; After treated with ATP of different concentrations (0, 5, 10, 50, 100 μmol/L) for 24 h, RT PCR was performed to detect firstly the expression of P2 subtypes in HUVEC, secondly the expression of P2Y2, P2Y11, cyclinB1 and cyclinD1 and finally the expression of intercellular adhesion molecule (ICAM 1), vascular cell adhesion molecule (VCAM 1), endothelial nitric oxide synthase (eNOS). Results：Compared with the control group, ATP groups (50 and 100 μmol/L) significantly inhibited the growth of HUVEC (P<0.01) and the inhibition of ATP (50 μmol/L) on HUVEC growth was time dependent; ATP had no significant effect on HUVEC apoptosis, but high concentrations significantly increased the proportion of cells in S phase and diminished the proportion of cells in G2/M phase; ATP upregulated expression of ICAM1, VCAM 1 in HUVEC in all concentration groups, and upregulated expression of P2Y2, 11, eNOS and down regulated expression of cyclinB1 only at high concentrations, while had no signifigant effect on cyclinD1 expression. Conclusion：ATP at high concentrations (50, 100 μmol/L) significantly inhibited HUVEC growth by blocking cell cycle in S phase and promoted expression of atherosclerosis related adhesion molecules in HUVEC,
which may be relevant to its role of up regulating the expression of P2Y2,11 and down regulating the expression of cyclinB1.

8. Effects of Ginkgo Biloba Extract on the Expression of Bcl 2 and Bax in the Rabbit Atherosclerotic Plaque

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[KEY WORDS] Ginkgo Biloba Extract; Atherosclerosis; Bcl 2; Bax

[ABSTRACT] Aim: To observe the Ginkgo biloba extract (EGB) on Bcl 2 and Bax expression of rabbit atherosclerotic plaques. Methods: 40 rabbits were randomly divided into untreated control group, model group, lipitor group and EGB group. The changes of atherosclerotic plaque area and the expressions of Bcl 2 and Bax were observed. Results: The plaque area of EGB group and lipitor group were less than those of the model group (P<0.01). The positive expressions of Bcl 2 and Bax in model group were higher than those in untreated control group (P<0.05), the positive expressions of Bax of smooth muscle cells and foam cells decreased in lipitor group and EGB group, the positive expressions of Bcl 2 increased, furthermore Bax/Bcl 2 in EGB group decreased. Conclusion: EGB can decrease the expression of Bax/Bcl 2, reduce endothelial cell damage, thus inhibiting the occurrence of atherosclerosis.
9. Telmisartan and Atorvastatin’s Association Influence on the Vascular Endothelial Cell’s Morphology and Function in Diabetes Rats

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[KEY WORDS] Diabetes; Telmisartan; Atorvastatin; Endothelial Cell; Hepatocyte Growth Factor

[ABSTRACT] Aim: To observe telmisartan and atorvastatin’s association influence on the expression of hepatocyte growth factor of blood vessel and the vascular endothelial cell’s morphology and function in diabetes rats which can supply with laboratory material for preventing and caring atherosclerosis of patients with diabetes in early stage during clinic practice. Methods: Animal model of the diabetes rats were built and divided into different groups which were given different medicine intervention, and the expression of hepatocyte growth factor was tested and the morphology of endothelium within each group was observed, then the results of each group were compared. Results: Compare to normal group, the diabetes groups manifested lower concentration of hepatocyte growth factor, mRNA expression of hepatocyte growth factor decreased and the endothelium’s necrosis falling off from blood vessel were observed under transmission electron microscope. Compared to pure diabetes group, the groups with medicine intervention, either single telmisartan or
telmisartan associated with atorvastatin, both had higher hepatocyte growth factor concentration level and hepatocyte growth factor mRNA expression, the morphy of blood vessel endothelium become much better and normalizing. Compared to single telmisartan group, the hepatocyte growth factor concentration and hepatocyte growth factor mRNA expression were much higher in the group of telmisartan associated with atorvastatin, the morphology of endothelium was more normalizing. Conclusion: Telmisartan associated with atorvastatin can improve the morphology of endothelium better than single telmisartan, which is worthy of the further research in the clinical prevention and treatment of atherosclerosis of patients with diabetes in early stage.

10. Effect of Acute hyperglycaemia on Mitochondria Membrane Potential and Cytochrome c after AMI in Rats Without Diabetes

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[KEY WORDS] Myocardial Infarction; Acute Hyperglycaemia; Mitochondria Membrane Potential; Cytochrome c

[ABSTRACT] Aim: To study the effects of acute hyperglycaemia on Mitochondria Membrane Potential and Cytochrome c after AMI in rats without diabetes. Methods: We ligated the left anterior descending coronary artery of forty male SD rats to build the models of AMI. Then, these animals were randomly divided into 4 groups: CON
group, HG1 group, HG2 group and insulin group; And another ten male SD rats were used as Sham group. Blood glucose levels were monitored throughout the experiment. Apoptotic index (AI), Mitochondria Membrane Potential, mitochondria and endochylema Cyt c were measured. Results: Compared with SHAM group, the AI and endochylema Cyt c were significantly higher in other groups; The Mitochondria Membrane Potential and the expression of mitochondria Cyt c were significantly lower in other groups. The things were diametrically opposed in the HG2 group. The Mitochondria Membrane Potential and the expression of Cyt c were not significantly different in CON group, HG1 group and insulin group. Conclusion: Acute hyperglycaemia after AMI has significant influences on apoptosis in rats by way of Mitochondria. We can protect cardiac muscle cell by injecting insulin which can reduce blood glucose.

11.Effection of Probulc on the Treatment of Non Proliferative Diabetic Retinopathy

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[KEY WORDS] Probulc; Diabetic Retinopathy; Non Proliferative

[ABSTRACT] Aim: To study the influence of probulc on the type 2 diabetic mellitus patients with non proliferative diabetic retinopathy(NPDR) about blood lipids,
antioxidant capacity, visual function and retinal morphology, so as to provide clinical basis for the prevention and treatment of early DR by probucol. Methods: 66 type 2 diabetes patients with 127 NPDR eyes were included. Patients were randomly divided into control and treatment groups: the control group were treated by intensive therapy of blood glucose and blood pressure control, the treatment group were treated with the intensive therapy and probucol 0.375 g, 2 times a day for 12 months. Before and after treatment, the their blood lipids, serum level of the total antioxidant capacity (TAOC), visual acuity, fundus, and fundus fluorescein angiography in both group were checked. Results: There were 62 cases 120 eyes completed the study. Probucol obviously decreased levels of total cholesterol (TC), triglyceride (TG) and low density lipoprotein cholesterol (LDLC) in plasma of the patients. Levels of TAOC and the visual acuity was significantly improved in the probucol group (P<0.01) than that of control group, and the retinal capillary hemangioma, fundus bleeding and exudation, and macular edema were significantly decreased in patients of the probucol group (P<0.05). Probucol also has a role in reduction of capillary non perfusion areas in the diabetic retina. Conclusion Probucol can not only regulate serum lipids, but also have the action of improving antioxidant capacity. It can improve the visual function, ameliorate retinal’s microangiopathy, and decrease the incidence of macular edema. It means that probucol has a therapeutic effect in patients with NDPR.

12. The Relationship Between C Reactive Protein and Carotid Atherosclerosis in
Cerebral Infarction

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[KEY WORDS] C Reactive Protein; Carotid Atherosclerosis; Cerebral Infarction; Prognosis

[ABSTRACT] Aim: To investigate the relationships between C reactive protein and carotid atherosclerosis and prognosis in patients with cerebral infarction. Methods: 94 patients with first cerebral infarction were selected. The serum level of C reactive protein was determined by immunonephelometric assay. The features of carotid atherosclerosis was assessed by carotid ultrasonography. The neurological deficit scores, mortality and disability rate were evaluated in patients with cerebral infarction. Results: The carotid intima medial thickness and the incidence of carotid unstable plaque in high C reactive protein group were significantly higher than those of low C reactive protein group in patients with cerebral infarction (P<0.05); The neurological deficit scores, mortality and disability rate in high C reactive protein group were significantly higher than those of low C reactive protein group in patients with cerebral infarction (P<0.01). Conclusion: The serum level of C reactive protein may reflect the character and plaque stability of carotid atherosclerosis in patients with cerebral infarction, which may be a prognostic marker in patients with cerebral infarction.
13. Effect of Advanced Glycation End Products on Expression of Lectin Like Oxidized Low Density Lipoprotein Receptor1

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[KEY WORDS] Advanced Glycation End Products; Macrophages; Lectin Like Oxidized Low Density Lipoprotein Receptor; Atherosclerosis

[ABSTRACT] Aim: To learn the effects of advanced glycation end products (AGE) on expression of lectin like oxidized low density lipoprotein (LOX 1) protein in U937 macrophages and serum soluble LOX 1 (sLOX 1). Methods: U937 macrophages differentiating for 48 h were incubated with AGE in various concentrations and time. The expression of LOX 1 protein were detected by Western Blotting analysis. Serum sLOX 1 and AGE levels were detected by ELISA in 24 diabetes and 22 normal controls. Results: After exposure of U937 macrophages to 100, 200 or 400 mg/L AGE, the expression of LOX 1 protein was 1.85, 3.22 and 4.65 fold, as compared with that of control group (P<0.05), LOX 1 protein expression following 400 mg/L AGE for 12, 24, 48 h was 2.85, 3.89 and 4.3 fold compared with 0 h group (P<0.05). Serum sLOX 1 and AGE levels were significantly increased in diabetes group compared with that of control (P<0.01). They were positively correlated (P<0.001). Conclusion: AGE could enhance the expression of LOX 1 protein in a time and dose dependent manner, which may play an important role in diabetic macroangiopathy through accelerating foam formation.
cell formation.

14. Correlations of Ambulatory Arterial Stiffness Index and Carotid Atherosclerosis in Primary Hypertension Patients

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[KEY WORDS] Primary Hypertension; Atherosclerosis; Ambulatory Arterial Stiffness Index; Intima Media Thickness

[ABSTRACT] Aim: To evaluate the correlation of ambulatory arterial stiffness index (AASI) and carotid atherosclerosis in primary hypertension patients. Methods: 124 primary hypertension patients and 70 healthy people were selected. The carotid artery intima media thickness (IMT) were determined by ultrasonography. Primary hypertension patients were divided into two groups according to IMT: IMT ≥0.9 mm as carotid atherosclerosis and IMT<0.9 mm as non carotid atherosclerosis. Twenty four hour ambulatory blood pressure monitoring (ABPM) was performed and the blood pressure parameters were analyzed to calculate AASI. Results: IMT and plaque score in primary hypertension group was higher than that in healthy control group (1.178±0.214 mm and 0.806±0.356 vs 3.17±2.44 mm and 1.02±1.51, P<0.01). AASI in primary hypertension group was higher than that in healthy control group (0.56±0.14 and
0.41±0.12, P<0.01). And so was in carotid atherosclerosis group and non carotid atherosclerosis group (0.59±0.12 and 0.50±0.11, P<0.05). AASI were correlated with IMT positively (r=0.325, P<0.01). Conclusion: AASI was closely related to carotid atherosclerosis in primary hypertension patients.

15. Hemodynamic Changes in Patients with Unilateral Vertebral Artery Occlusion

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[KEY WORDS] Vertebral Artery Occlusion; Posterior Circulation Ischemia; Color Doppler Flow Imaging; Transcranial Doppler; Hemodynamics

[ABSTRACT] Aim: To investigate role of the morphologic and hemodynamic changes of contralateral vertebral artery (VA) in the occurrence of posterior circulation ischemia (PCI) in patients with unilateral vertebral artery occlusion using color Doppler flow imaging (CDFI) combined with transcranial Doppler (TCD). Methods: 96 patients with unilateral vertebral artery occlusion were recruited into this study. Among them, there were 50 cases with PCI and 46 cases without PCI. Diameters of contralateral VA were measured by CDFI. Peak systolic velocity (PSV) and end diastolic velocity (EDV) of contralateral VA and basilar artery (BA) were measured by TCD. Results: The presence rate of collateral anastomose on DSA had no differences between two groups
(P>0.05). The diameters of contralateral VA in patients without PCI group were 3.54±0.47 mm, which was significantly larger than that in patients with PCI group (3.25±0.45 mm, P<0.01). The PSV and EDV of intracranial segment in contralateral VA in patients without PCI was dramatically higher than VA with PCI (87.09±35.47 cm/s and 35.85±18.03 cm/s vs 70.60±31.04 cm/s and 27.32±11.75 cm/s, P<0.05). The PSV and EDV of BA in patients without PCI group was higher than that with PCI group ( 89.54±35.56 cm/s and 37.35±19.34 cm/s vs 72.98±25.95 cm/s and 29.52±11.56 cm/s, P<0.05). Conclusion: In patients with unilateral VA occlusion, the hemodynamic changes of contralateral VA and BA was strictly related to the occurrence of PCI.

16. Relationship Between Red Cell Distribution Width and Complication Risk in Patients with Acute Myocardial Infarction

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[KEY WORDS] Red Cell Distribution Width; Acute Myocardial Infarction; N Terminal Pro Brain Natriuretic Peptide; Cardiac Troponin I

[ABSTRACT] Aim: To investigate the relationship between red cell distribution width (RDW) level and risk of complication in acute myocardial infarction (AMI) patients; to compare the correlation of RDW with N terminal pro brain natriuretic
peptide (NTproBNP), cardiac troponin I (cTnI) and high sensitivity C reactive protein (hs CRP). Methods: 200 consecutive AMI patients were classified into complication group (n=145) or complication free group (n=55) according to the presence or absence of new onset symptomatic heart failure, arrhythmia or cardiac shock. Patients were divided into quartiles based on RDW value (<12.8%, 12.9%～13.8%, 13.9%～14.7%, >14.8%, n=50 in each quartile), and odds ratio (OR) of incident complication was calculated by using Logistic regression. Correlation of RDW with NT proBNP, cTnI and hs CRP was compared by Spearman rank correlation analysis. Results: RDW levels in complication group was significantly higher than that in complication free group (14.50±0.97% vs 12.90±0.85%, P<0.05). Levels of AMI patients were positively associated with complication risk, after adjustment for estimated glomerular filtration rate, serum ferrum, left ventricular end diastolic dimension, left ventricular ejection fraction, and plasma NT proBNP, cTnI and hs CRP levels, the highest RDW quartile entailed 1.96 times greater risk for complication than the lowest quartile (95% CI 1.34～2.79, P<0.05). Correlation intensity order of RDW was NT proBNP>cTnI>hs CRP (r s=0.31, 0.29 and 0.21 respectively, all P<0.05). Conclusion: Higher RDW is closely associated with increased risk of AMI complication and elevated plasma NT proBNP and cTnI level.

17. The Relationship Study Between Cathepsin S and Atherosclerosis in Diabetes

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[KEY WORDS] Atherosclerosis; Intima Media Thickness; Cathepsin S
[ABSTRACT]  Aim：To explore the relationship between cathepsin S in the process occurrence and development of atherosclerosis in diabetes. Methods：83 diabetic patients detected by carotid artery intima media thickness (IMT) were divided into three groups：20 diabetic cases with moderate atherosclerosis group, IMT ≥ 1.0 mm, or with more than one atherosclerotic plaque; 23 diabetic cases with mild atherosclerosis group, IMT 0.8~0.99 mm; 40 diabetic cases without atherosclerosis group, IMT <0.8 mm; 21 cases of normal control group. The levels of HbA1c, CatS, blood glucose, blood lipids, and IMT results were measured in all subjects. Results：Compared with the control group CatS value was significantly higher in diabetic group with moderate atherosclerosis and mild atherosclerosis (P<0.001), and increased positively with IMT; CatS value had no significant change in diabetic group without atherosclerosis and the normal control group (P<0.05); compared with the first group and the second group CatS value was significantly different (P<0.001)；in the diabetic group of glucose, blood lipids, HbA1c was not significantly different (P<0.05), and in normal control group was significantly different (P<0.01) . Conclusion：CatS level in diabetic patients was significantly increased, and related to IMT values. CatS determination of serum can be used as diagnostic indicators for monitoring diabetes, atherosclerosis.