

GW23-e0378

THE RELATIONSHIP BETWEEN OSTEOPROTEGERIN GENE POLYMORPHISMS AND HYPERTENSION, CAROTID ATHEROSCLEROSIS

doi:10.1136/heartjnl-2012-302920d.12

¹Chenqi, ²Panning, ¹Chengxiaoshu, ¹Liujiang, ³Wuyanqing, ¹2nd Affiliated Hospital of Nanchang University; ²Affiliated Pinxiang Hospital of Nanchang University; ³Second Affiliated Hospital of Nanchang University

Objectives To study the relationship between osteoprotegerin (OPG) gene polymorphism and hypertension, carotid atherosclerosis.

Methods Two hundreds seventy-four hospitalised patients were enrolled from Department of Cardiology, 2nd Affiliated Hospital of Nanchang University. Their body mass index, fasting glucose, lipids, carotid artery plaque and intima intima-media thickness (IMT) were measured. And detection of OPG genotype polymorphisms, measurement of blood pressure and evaluation of their hypertension diagnosis were proceeded.

Results

1. Among the 274 cases of patients, 76 cases presented with 950TT genotype (accounting for 27.7%), 128 cases presented with 950TC genotype (46.6%) and 70 cases presented with 950CC genotype (25.5%). And on the 1181 gene locus, 139 cases presented with GG genotype (50.7%), 98 cases presented with GC genotype (35.8%) and 37 patients presented with CC genotype (13.5%).
2. Compared Normotensive group with hypertensive group, the distribution of 950 T→C genotypes (TT, TC and CC),

1181G→C genotype (GG, GC and CC), two alleles (950T, 950C and 1181 G, 1181C) and the 950/1181 chain gene were not significantly different.

3. Compared Carotid plaque-free group with plaque-positive group, there were significant difference in the distribution of 950 T→C genotypes (TT, TC and CC), 1181G→C genotype (GG, GC and CC), two alleles (950T, 950C and 1181 G, 1181C). And the frequency of 950CC, 1181CC genotype and 950C allele appear in the plaque-positive frequency was significantly higher than the non-plaque control group. The 950/1181 distribution chain gene is also a significant difference, which CC/CC genotype had the largest difference between the two groups.
4. The carotid IMT of patients with 950TT, 950TC and 950CC genotype were respectively 0.90 ± 0.11 mm, 1.08 ± 0.23 mm and 1.20 ± 0.16 mm. And IMT of patients with 950CC genotype were thicker than patients with 950TT genotype ($p<0.05$); The IMT of patients with three different genotypes on 1181 gene locus (1181GG, GC and CC) also showed with significant differences, which were respectively 0.93 ± 0.12 mm, 1.09 ± 0.16 mm and 1.18 ± 0.13 mm, in which of patients with CC genotype were significantly thicker than GG genotype ($p<0.05$).

Conclusions The polymorphism of OPG gene on 950 locus and 1181 locus were not correlated with hypertension, but correlated with atherosclerosis of carotid artery.