Objectives The research was to study the relationship between the level of ghrelin and left ventricular hypertrophy of essential hypertension by observing the level of ghrelin in the serum of patients with essential hypertension and healthy volunteers.

Methods In this research, 132 hypertensive patients who were in our hospital from March 2011 to January 2012 were selected into a group, among which there were 63 samples with left ventricular hypertrophy and 69 samples without left ventricular hypertrophy, and 61 normal healthy volunteers were selected as controls. The fasting periphery blood and the centrifugal upper serum were collected from the hypertension group and the control group to test the serum level of ghrelin by using ELISA method. The level of ghrelin from two groups of hypertensive patients and the normal healthy volunteers were compared respectively. Meanwhile, the LVEDd, IVST and LVPWT were measured, by echocardiography. Then their Left Ventricular Mass Index was calculated by Devereux formula.

Results

1. The levels of ghrelin in hypertensive group were lower than the control, the difference was significant ($p<0.01$);
2. the level of ghrelin in hypertensive patients without left ventricular hypertrophy were higher than hypertensive patients with left ventricular hypertrophy ($p<0.01$);
3. the level of ghrelin was related to the LVMI negatively by Pearson linear correlation analysis ($r=-0.511$, $p<0.01$).

Conclusions

1. The serum level of ghrelin in patients with essential hypertension has decreased respectively, the density of them has declined when the left ventricular hypertrophy occurs, which is compared with the subjects without left ventricular hypertrophy;
2. The remodelling of left ventricular caused by hypertension is correlated with ghrelin plasma concentration;
3. The ghrelin may be involved in the occurrence and development of left ventricular hypertrophy and essential hypertension.

GW23-e2298

THE CORRELATION OF GHRELIN AND OCCURRENCE OF LEFT VENTRICULAR HYPERTROPHY IN PATIENTS WITH ESSENTIAL HYPERTENSION

doi:10.1136/heartjnl-2012-302920r.7

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