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THE RELATIONSHIP OF ADRENOMEDULLIN AND LEFT VENTRICULAR REMODELING IN OLDER PATIENTS WITH ESSENTIAL HYPERTENSION

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Objective To investigate the relationship of adrenomedullin (ADM) and left ventricular remodeling in older patients with essential hypertension.

Methods 77 essential hypertension patients were divided into normal left ventricular group (normal group), left ventricular hypertrophy group (LVH group) and left ventricular cavity expansion group (LVCE group) according to the extent of myocardial hypertrophy and left ventricular cavity expansion. The concentrations of ADM, renin, angiotensin-α (Angα) and aldosterone were dectected by radioimmunoassay method. B type natriuretic peptide (BNP) levels were detected by immunofluorescence. The concentration of ADM was compared among the three groups. The correlation of ADM among BNP, renin, Angα and aldosterone was analysed.

Results The level of ADM and log transformed BNP (lgBNP) was significantly higher in LVCE group than that in LVH group, and which in LVH group was higher than that in normal group. The level of Angα and aldosterone was higher in LVH group than that in normal group, but in LVCE group only aldosterone was higher. Left ventricular mass index (LVMI) were increased higher in LVH group and LVCE group than that in normal group. Left ventricular ejection fraction (EF) in LVCE group was lower than that in normal group and LVH group while there was no significant difference in renin and E/A ratio among three groups. ADM were positively correlated with lgBNP, Angα, aldosterone and LVMI (r=0.51, 0.32, 0.39 and 0.45, respectively, p<0.01). In 30 months of follow-up, the patients with high ADM concentration (ADM ≥25 pg/ml, n=23) had high risk of death (HR 3.81, p=0.022).

Conclusion The levels of adrenomedullin were increased with the progress of left ventricular remodeling in older hypertensive patients. Adrenomedullin could be used as a prognostic indicator of older patient hypertension.