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**ATRIAL AND BRAIN NATRIURETIC PEPTIDES AS MARKERS FOR AFTERLOAD AND VOLUME RETENTION IN PRIMARY ALDOSTERONISM**

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Atrial and brain natriuretic peptides (ANP and BNP) are cardiac hormones having natriuretic and vasodilator actions. ANP is secreted from cardiac atria by atrial stretch, while BNP is mainly secreted from cardiac ventricles by stress to the heart. The present study was carried out to determine which natriuretic peptide is closely related to afterload and volume retention in patients with primary aldosteronism (PA). We examined 11 patients with PA due to aldosterone-producing adrenal adenoma before and 13 to 25 days after surgical resection of the adenoma. Plasma levels of ANP and BNP were measured by specific immunodimetric assays, and total blood volume was determined by a plasma tracer method with 131I-human albumin. Reference values were from age- and sex-matched normotensive subjects. As expected, plasma levels of ANP and BNP were elevated in the PA patients compared with normotensive control subjects (ANP 8.50±1.41 vs 2.41±0.19, BNP 8.39±1.59 vs 3.51±0.44 fmol/ml, mean±SEM, P<0.01). Both mean blood pressure (MBP) and total blood volume were lowered following surgical resection of adrenal adenoma (MBP 112±5 vs 98±3 mmHg, blood volume 74.9±2.9 to 70.8±3.5 ml/kg body weight, BNP<0.05), concomitantly with reduction of an SV1+RV5 voltage in electrocardiogram (4.1±0.4 to 3.4±0.3 mV, P<0.05), in the PA patients. The elevated ANP and BNP levels were reduced by 3.85 and by 5.07 fmol/ml (P<0.01), respectively, following the adenoma resection. Significant relationship was observed between MBP and the plasma levels of ANP (r=0.64, P<0.01) and BNP (r=0.58, P<0.01). BNP was significantly correlated with the SV1+RV5 voltage (r=0.65, P<0.01) and with total blood volume (r=0.57, P<0.01), but this was not the case for ANP. These results suggest that BNP is more sensitive as a marker for afterload and volume status than ANP is, in patients with PA due to adrenal adenoma.

Key Words: Pregnancy, Left Atrium, Hypертrophy

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**LEFT ATRIAL SIZE IN PREGNANT WOMEN WITH CHRONIC AND GESTATIONAL HYPERTENSION: PRELIMINARY DATA**

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The present study evaluated left atrial dimension during pregnancy in patients (pts) with chronic hypertension (CH) compared with pts with gestational hypertension (GH). Pts population included 8 pts with GH (mean age 29 yrs) and 12 pts with CH (mean age 28 yrs). Pts with GH underwent Doppler echocardiographic evaluation at 24th week, while pts with CH at 12 and 24 week. Left atrial (LA) diameters were measured during systole from the parasternal long axis view from M-mode and from the apical four-chamber view from 2D. LA volumes were determined at mitral valve opening (max vol) and at mitral valve closure (min vol). LA volumes were measured from the apical 4-chamber and 2-chamber views by means of the biplane area-length method, and corrected for body surface area.

LA conduit vol, passive emptying vol and active emptying vol were calculated.

Results of serial evaluation of LA size are shown in table.

Left atrial dimension and volumes increase during pregnancy. Patients with chronic hypertension have higher volume compared with gestational hypertension. The increase in LA diameter is more marked for the supero-inferior diameter in gestational hypertension suggesting a hemodynamic effect due to the increase of preload during pregnancy. This effect is less evident in chronic hypertension due to chronic remodelling of atrial shape and to a decrease stiffness of atrial walls.

Key Words: Primary Aldosteronism, Natriuretic Peptides,