

### **Rapid Determination of Human Plasma Aldosterone**

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Method of rapid determination of human plasma aldosterone without chromatography was studied using CEA-IRE-SORIN kit. Half ml of plasma was extracted with 4 ml methylene dichloride by shaking for 2 minutes. After centrifugation supernatant was aspirated and 3 ml of the methylene dichloride layer was taken. This was evaporated under a nitrogen stream, and the residue was used for assay. Two-tenth ml and 0.3 ml of phosphate buffer was added to each aldosterone standard and each residue, respectively. Then 0.1 ml of  $^3\text{H}$ -aldosterone and 0.1 ml of anti-aldosterone serum which had practically no cross-reaction with other steroids were added to all the tubes, vortexed, and incubated for 30 minutes at  $37^\circ\text{C}$ , then for 2 hours at  $4^\circ\text{C}$ . Half ml of dextran-coated charcoal was added, vortexed, and 10 minutes later centrifuged at  $2,000 \times g$  for 15 minutes. Half ml of the supernatant was taken and counted (% bound). A linear standard curve was obtained between 12.5 and 400 pg on a logit-log paper when % bound for 0 pg was assumed to be 100%. Recovery of  $^3\text{H}$ -

aldosterone added to the plasma was 99% ( $n=4$ ). Half ml of plasma from an adrenalectomized woman showed values less than the sensitivity of the method. Coefficient of variation was 11.0, 7.0 and 5.5% for plasmas with mean values of 4.4, 14.8 and 26.3 ng/100 ml, respectively ( $n=5$ ). Half ml of the adrenalectomized plasma reinforced with 50, 100 and 200 pg of aldosterone showed values  $10.04 \pm 0.98$  (SD),  $20.38 \pm 1.51$  and  $39.92 \pm 2.38$  ng/100 ml, respectively ( $n=5$ ). Thirteen normal males in a supine position at 9.00 AM showed values 4.4 to 12.4 ( $7.23 \pm 2.86$  SD) ng/100 ml. Several of them showed increased values after infusions of angiotensin II, angiotensin III and 1-sarcosine, 8-isoleucine-angiotensin II. Patients with primary aldosteronism, idiopathic hyperaldosteronism, renovascular hypertension and Bartter's syndrome showed high values, and patients with benign essential hypertension showed normal values. With this method one technician could determine more than 50 plasma samples in one day.

### **Radioimmunoassay of II-Deoxycortisol in Unextracted Plasma after Metyrapone Test**

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To date, many methods have been used to estimate II-deoxycortisol in plasma after the admini-

stration of metyrapone including competitive protein binding and radioimmunoassay techniques,