

**Studies on Renin-Angiotensin-Aldosterone System in Various Diseases
Using Radioimmunoassay of Plasma Renin Activity and Plasma Aldosterone**

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Plasma renin activity (PRA) and plasma aldosterone concentration (PA) were determined by radioimmunoassay in various patients. In primary aldosteronism and idiopathic hyperaldosteronism PA was high, PRA was low and showed no response to low Na diet and ambulation. In Bartter's syndrome and pseudo-Bartter's syndrome due to chronic diarrhea or vomiting both PRA and PA were high. In a patient with glucocorticoid-responsive hypokalemic hypertension PRA and PA were low, cortisol, DOC and corticosterone showed normal values. Two siblings with suspected Liddle's syndrome showed low PRA, and PA of the brother was low. But PA of the sister was normal. Most patients with renovascular hypertension showed high PRA and PA, and their PRA in renal venous blood on the stenosis side were higher than that on the other side. In renal tubular acidosis PRA was normal or high. Of 47 patients with benign essential

hypertension 21 showed PRA hyporesponsive to various stimuli. Of 32 patients given intravenously 20 mg of furosemide, 15 were renin-responders and 17 were renin-non-responders. In both groups PA was normal or low. 150 mg/day of spironolactone was given orally to both groups for at least 4 weeks. Significant fall in blood pressure was found in 33.3% of the renin-responders and 76.5% of the renin-non-responders. PRA in Cushing's syndrome was variable in adrenal hyperplasia type and was low in adrenal adenoma type. In idiopathic diabetes insipidus PRA and PA were high on water deprivation and they decreased by water drinking, saline infusion and pitressin injection. In anorexia nervosa PRA was high. In Shy-Drager's syndrome PRA was low, and it increased by upright posture and decreased markedly by 9 α -fluorocortisol administration.