Blood pressure, fludrocortisone dose and plasma renin activity in children with classic congenital adrenal hyperplasia due to 21-hydroxylase deficiency followed from birth to 4 years of age.

Infants with congenital adrenal hyperplasia (CAH) require higher doses of fludrocortisone (FC) due to physiological mineralocorticoid resistance. The adequacy of mineralocorticoid replacement should be closely monitored to avoid hypertension. To evaluate blood pressure (BP) in infants with CAH due to 21-hydroxylase deficiency. Thirty-three patients (18f/15m) diagnosed by newborn screening were followed until the age of 4 years. Mean start of HC and FC treatment was day 9.8 ± 9.2 postnatally. Mean daily HC dose ranged from 8.6 to 12.3 mg/m(2)/day. During the first year of life prevalence of systolic hypertension was up to 45.5%. At 12 and at 18 months, BP was highest. Prevalence of systolic hypertension was up to 57.6% at 18 months of age. After 24 months BP levels were lower and at 48 months prevalence of hypertension decreased to 15.2%. Systolic and diastolic BP correlated significantly with the administered fludrocortisone dose (r = 0.3, P = 0.005), but not with body mass index. Hypertensive children received significantly higher FC doses and had significantly lower plasma renin activity during the study period. High prevalence of transient, most likely FC induced hypertension was found in young children with classic CAH diagnosed by newborn screening. The changing mineralocorticoid sensitivity...
in infants is a risk factor for the development of hypertension in patients with CAH, who are treated with FC. Therefore suppressed plasma renin activity should be avoided to prevent arterial hypertension.