

# Hubungan antara kadar aktivitas renin plasma dengan hipertensi pada penderita hiperplasia adrenal kongenital defisiensi enzim 21-hidroksilase = Association between plasma renin activity with hypertension in children with congenital adrenal hyperplasia due to 21-hydroxylase enzyme deficiency

Lubis, Siska Mayasari, author

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## Abstrak

Latar belakang: Hipertensi bukan merupakan manifestasi klinis pasien hiperplasia adrenal kongenital defisiensi enzim 21-hidroksilase (HAK 21-OHD), oleh karena itu perlu diketahui angka kejadian hipertensi pada pasien HAK 21-OHD serta kemungkinan penyebabnya. Tujuan: Mengetahui hubungan antara kadar aktivitas renin plasma (PRA) dengan hipertensi pada anak HAK 21-OHD. Metode: Suatu studi analitik observasional dengan rancangan penelitian potong lintang. Sampel penelitian adalah anak HAK 21-OHD yang berusia >6 bulan-18 tahun, dipilih secara consecutive sampling, kemudian dibandingkan antara 2 kelompok, hipertensi dan tidak hipertensi. Hasil: Sebanyak 40 anak dianalisis, 20 subjek di kelompok hipertensi dan 20 subjek tidak hipertensi. Hipertensi ditemukan pada 16 dari 27 subjek (59,3%) HAK tipe salt wasting dan 4 dari 13 subjek (30,8%) HAK tipe simple virilizing. Diperoleh perbedaan rerata yang bermakna kadar PRA antara kelompok hipertensi dengan tidak hipertensi pada tipe <em>salt wasting  $p=0,016$ ). Risiko mengalami hipertensi pada pasien HAK tipe salt wasting dengan kadar PRA rendah adalah 1,09 kali setelah dikontrol variabel jenis kelamin, kadar 17-OHP, dan dosis terakhir fludrokortison. Dosis terakhir hidrokortison memiliki hubungan yang signifikan terhadap kejadian hipertensi pada pasien HAK tipe salt wasting. Kesimpulan: Kejadian hipertensi pada pasien HAK 21-OHD saat penelitian berlangsung adalah 32%. Risiko hipertensi pada pasien HAK tipe salt wasting dengan kadar PRA rendah adalah 1,09 kali setelah dikontrol variabel jenis kelamin, kadar 17-OHP awal, dan dosis terakhir fludrokortison.

.....Background: Hypertension is an uncommon manifestation of congenital adrenal hyperplasia due to 21-hydroxylase enzyme deficiency (21-OHD CAH), therefore it is necessary to estimate the incidence of hypertension in 21-OHD CAH patients and the possible causes. Objective: To evaluate the association between plasma renin activity levels (PRA) with hypertension in children with 21-OHD CAH. Methods: An observational analytic study with a cross sectional study design. The subjects were 21-OHD CAH children, aged >6 months to 18 years, selected by consecutive sampling and then compared between 21-OHD CAH with hypertension and non hypertension groups. Results: A total of 40 subjects were analyzed, 20 subjects in the hypertension and 20 subjects in non hypertension groups. There were 16 from 27 (59.3%) and 4 from 13 subjects (30.8%) with hypertension in CAH salt wasting and simple virilizing types, respectively. There was significant mean difference in PRA levels between hypertension and non hypertension groups in CAH salt wasting patients ( $p=0,016$ ). The risk of hypertension in CAH salt wasting patients with low PRA levels was 1,09 times after controlling for sex variables, 17-OHP levels, and the last dose of fludrocortisone. The last dose of hydrocortisone had a significant relationship with the incidence of hypertension in CAH salt wasting type patients. Conclusion: The incidence of hypertension in 21-OHD CAH patients during the study period was 32%. The risk of hypertension in CAH salt wasting patients with low PRA levels was 1.09 times after

being controlled by sex, 17 OHP level, and the last dose of fludrocortisone.