

I-131 NP-59 光子斷層造影術在原發性多醛酮症的價值：來自一區域教學醫院的四年經驗

Value of I-131 NP-59 SPECT/CT scintigraphy in primary aldosteronism: A four-year experience from one regional teaching hospital

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Purpose: SPECT/CT has proven valuable in the diagnosis of a number of clinical fields, including nephrology. I-131 NP-59 SPECT/CT seems to be a reliable and non-invasive tool for an early diagnosis of primary aldosteronism. This study was designed to compare the clinicolaboratory profile of patients with primary aldosteronism using and not using I-131 NP-59 SPECT/CT imaging.

Methods: We retrospectively analyzed the clinicolaboratory characteristics among patients with primary aldosteronism who were diagnosed and managed at our hospital between April 2007 and March 2011. A total of 20 consecutive patients (median age, 56.1 years; M/F, 8/12) were analyzed, including 19 patients with adenoma and one patient with bilateral adrenal hyperplasia. These patients were divided into two groups, the SPECT/CT group that underwent I-131 NP-59 SPECT/CT imaging (n = 9) and the control group that did not undergo I-131 NP-59 SPECT/CT imaging (n = 11).

Results: The frequency of stage 1 hypertension was higher in the SPECT/CT group (77.8%, n = 7) than the control group (36.4%, n = 4). On confirmatory testing, there were four positive (36%) and seven absent (64%) results in the control group, and there were one positive (11%), six negative (67%), and two absent (22%) results in the SPECT/CT group. There were no differences between two groups in the age, lesioned adrenal size on CT and pathological examination, diastolic blood pressure, plasma renin activity, and aldosterone to renin ratio. However, the SPECT/CT group significantly had higher serum potassium level (3.4 vs. 2.6 mEq/L, $p = 0.005$), lower plasma aldosterone concentration (27.5 vs. 40.0 ng/dL, $p = 0.037$) and lower systolic blood pressure (145 vs. 180 mmHg, $p = 0.044$) than the control group.

Conclusion: These findings show that I-131 NP-59 SPECT/CT may be a useful tool for diagnosis in patients with primary aldosteronism presenting as stage 1 hypertension, less low serum potassium, and less high plasma aldosterone concentration.