

[PICTURES IN CLINICAL MEDICINE]

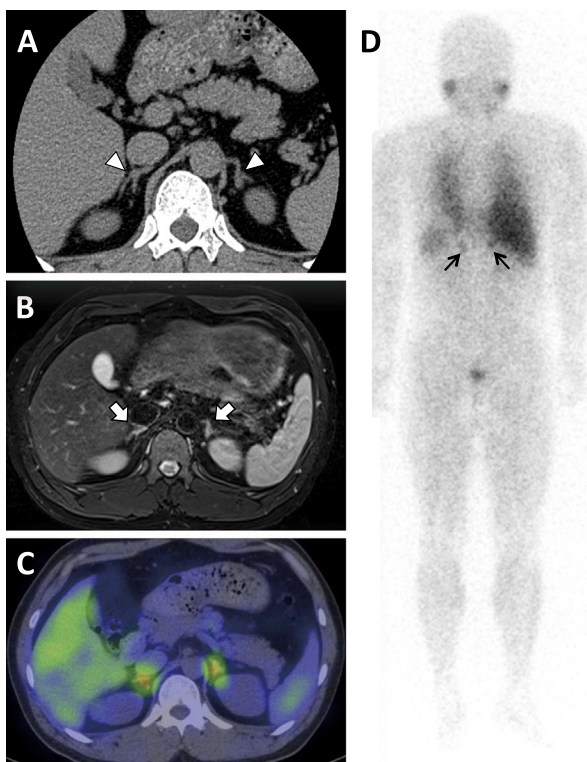
A Case of Juvenile Hypertension Suggestive of Adrenomedullary Hyperplasia

Yoshito Nishimura, Miho Yasuda, Kou Hasegawa and Fumio Otsuka

Key words: adrenal medullary hyperplasia, stroke, hypertension and catecholamines

(Intern Med 58: 311, 2019)

(DOI: 10.2169/internalmedicine.1182-18)



Picture.

A 29-year-old man with a history of cerebellar stroke was referred due to refractory hypertension. His blood pressure was 162/91 mmHg even with doxazosin, nifedipine and cilnidipine. Urinary excretions of catecholamines (adrenaline, 59.1 µg/day; noradrenaline, 1,043.9 µg/day) were elevated. No tumor was detected in the adrenal gland by computed tomography (Picture A, arrowhead) or magnetic resonance imaging (Picture B, arrow). However, ¹²³I-metaiodobenzylguanidine (MIBG) single-photon emission computed to-

mography (SPECT) revealed the specific uptake in the bilateral adrenal glands with a tumor/liver (T/L) ratio of 1.83 in the left and 2.10 in the right (Picture C, D), findings suggestive of adrenomedullary hyperplasia (AMH). Clonidine failed to reduce the plasma catecholamine levels. AMH is basically stable under α-blocker treatment but is considered to be a preclinical condition of pheochromocytoma (1). Due to the high sensitivity of ¹²³I-MIBG SPECT, we were able to detect false-positive AMH; however, combining imaging findings with the T/L ratio may improve the diagnostic performance (2). AMH should be considered as a differential diagnosis of refractory juvenile hypertension.

The authors state that they have no Conflict of Interest (COI).

Acknowledgement

The authors would like to thank Dr. Takayoshi Shinya from the Department of Radiology, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, for his kind help in providing the T/L ratio of ¹²³I-MIBG SPECT.

References

1. Korpershoek E, Petri BJ, Post E, et al. Adrenal medullary hyperplasia is a precursor lesion for pheochromocytoma in MEN2 syndrome. *Neoplasia* **16**: 868-873, 2014.
2. van Berkel A, U Rao J, WM Lenders J, et al. Semiquantitative ¹²³I-metaiodobenzylguanidine scintigraphy to distinguish pheochromocytoma and paraganglioma from physiologic adrenal uptake and its correlation with genotype-dependent expression of catecholamine transporters. *J Nucl Med* **56**: 839-846, 2015.

The Internal Medicine is an Open Access journal distributed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view the details of this license, please visit (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).