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


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 cildipine. 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-MIBG single-photon emission computed tomography (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