Asymmetric Posterior Reversible Encephalopathy Syndrome due to Hypertensive Encephalopathy

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A 41-year-old man was referred to our hospital presenting with drowsiness and left hemiparesis. He had a history of hypertension and chronic renal failure without any medication. He noticed hematuria one month before admission. On admission his blood pressure was 210/125 mmHg. Magnetic resonance imaging of the brain revealed hyperintensities in fluid-attenuated inversion recovery imaging at the brainstem and cerebellum bilaterally and right supratentorial white matter with mass effect (Picture A, B). Magnetic resonance angiography revealed stenosis of the left internal carotid ar-

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tery (Picture C). Three weeks of anti-hypertensive therapy resulted in a marked improvement of the lesions (Picture D, E). Most of the lesions showed increased apparent diffusion coefficient values, thus indicating that they were caused by a vasogenic edema (Picture F). We diagnosed the patient with posterior reversible encephalopathy syndrome (PRES) caused by hypertensive encephalopathy. The left supratentorial region was intact probably due to a low perfusion pressure. We believed that the severe hypertension exceeded the limits of autoregulation leading to breakthrough brain edema. Marked asymmetry in PRES has been rarely reported (1) and the pathophysiology of PRES remains controversial (2). This case supports the notion that hyperperfusion plays a causative role in the development of PRES.

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References