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Letter to the Editor

An unusual radiological presentation of posterior reversible encephalopathy syndrome

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PRES
Hypertension
Brain MRI
Radiological improvement

Dear Editor-in-Chief,

The patient was a 17-year-old girl who developed blurred vision, first in the left eye followed by the right eye, since one month ago. She started to have weakness of the lower limbs two weeks and a headache one week before she was visited. The headache was pulsatile and in the occipital region with nausea and vomiting. The patient developed restlessness three days before visiting.

On systemic examination, her blood pressure was 260/200 millimeter of mercury (mm Hg) and her pulse rate was 110/min. The systemic examination was otherwise unremarkable.

On neurologic examination, the patient was completely oriented but restless. Ophthalmoscopy revealed bilateral papilledema.

Moreover, left central facial palsy was also noted. Upon examination, the proximal force was decreased to 4/5 in the lower limbs. Blood tests on patient arrival showed potassium of 4.3 milliequivalents per liter (mEquiv./L), sodium of 122 mEquiv./L, and creatinine of 1.9 milligrams per deciliter (mg/dL). Other biochemical tests, complete blood count (CBC), and vasculitis tests were normal. Urinalysis showed 4–6 white blood cells (WBCs), 8–10 red blood cells (RBCs), and 3+ proteins.

On renal ultrasound, the echo of the renal parenchyma was slightly increased. Doppler ultrasound of the renal arteries was also normal.

Brain magnetic resonance imaging (MRI) showed hypersignal lesions in the pons and bilateral basal ganglia which did not enhance after contrast administration (Fig. 1a and b). Diffusion weighted (DW) images did not reveal any restriction in favor of stroke.

The patient received intravenous labetalol which caused a decrease in blood pressure. The neurologic condition of the patient improved following the decrease in blood pressure and her restlessness, blurred vision, facial palsy, and lower limbs weakness resolved. The hypersignal lesions were mostly resolved on the second brain MRI (Fig. 1c and d).

With regard to the considerable clinical and radiological improvement of the patient following decreasing blood pressure, a diagnosis of posterior reversible encephalopathy syndrome (PRES) was made.

PRES, which can occur in different contexts such as hypertension, renal failure, and administration of immunosuppressant, is characterized by a condition that is both clinically and radiologically reversible [1].

Radiologically, due to the vasogenic edema, involvement of the white matter, especially in the posterior region, is observed [2].

Atypical radiologic manifestations include isolated pons, frontal, thalamus, or basal ganglia involvement [3,4].

According to review of the literature, this is the first report of the radiologic manifestations of PRES as severe involvement of the pons and bilateral basal ganglia.

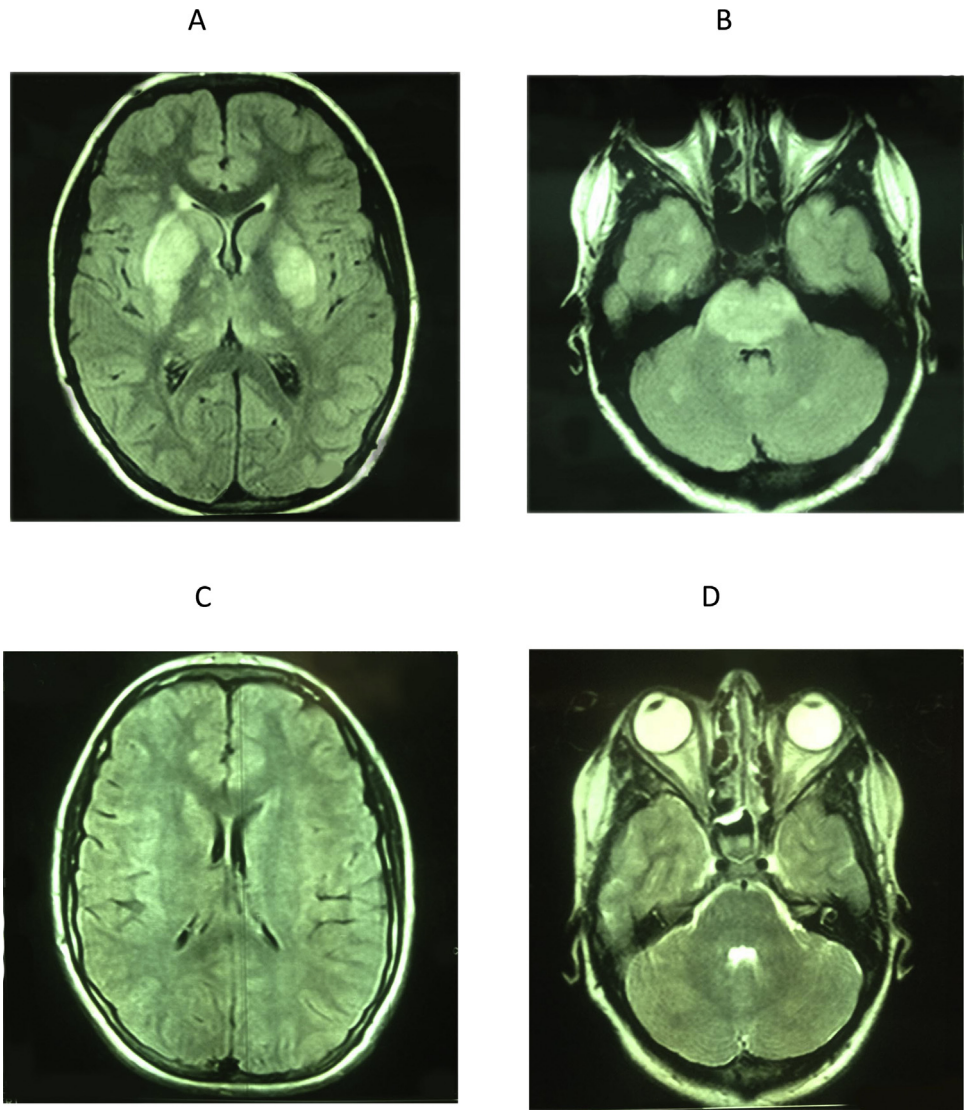

Fig. 1 – (a and b) In axial Flair's view, hypersignal lesions in the pons and bilateral basal ganglia were seen. (c and d) After one month the hypersignal lesions were mostly resolved.

Conflict of interest

None declared.

Financial support

None declared.

Ethics

The work described in this article has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans; EU Directive 2010/63/EU for animal experiments; Uniform Requirements for manuscripts submitted to Biomedical journals.

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