

## Posterior reversible encephalopathy syndrome

**Abdullah Siddiqui, Yasir Ahmed**

### **ABSTRACT**

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## CASE REPORT

A 39-years-old female with history of end stage renal disease due to uncontrolled hypertension, presented with altered mental status, right sided weakness and fever for one day. Physical examinations revealed a temperature of 101°F, blood pressure 232/93 mmHg, pulse: 110/min, respiration 16/min. She was confused and Glasgow coma scale was 3/15. Immediately, she was intubated and empiric antibiotics therapy for suspected meningitis begun. Magnetic resonance image (MRI) scan of brain showed signal enhancement abnormality in left parieto-occipital area (Figure 1A). Cerebrospinal fluid (CSF) analysis revealed white blood cells: 33 with 94% neutrophils. Cerebrospinal fluid herpes simplex by PCR, bacterial cultures remained negative. After initiating anti-hypertensive treatment and hemodialysis, her blood pressure normalized along with resolution of her neurological symptoms. Her antibiotics were discontinued. A repeat MRI scan on hospital day-7 confirmed complete resolution of radiological findings (Figure 1B). A diagnosis of posterior reversible encephalopathy syndrome (PRES) was made and subsequently she was discharged.

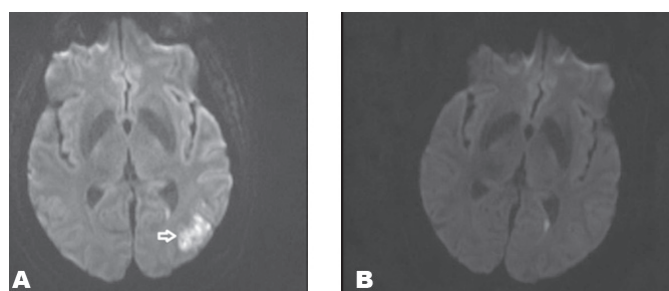


Figure 1: Posterior reversible encephalopathy syndrome (PRES). Magnetic resonance imaging (MRI) appearance on diffusion weighted images (DWI) showing (A) Restriction to diffusion (ischemic lesion; white arrow) in parieto-occipital area, (B) After treatment complete resolution.

## DISCUSSION

Posterior reversible encephalopathy syndrome is a clinico-radiological entity characterized clinically by headache, confusion, seizures and visual disturbances and radiologically by bilateral white matter abnormalities mostly in posterior regions of brain [1]. The suggested mechanism is disruption of blood-brain barrier due to failure of central nervous system auto-regulation leading to vasogenic edema [2]. The PRES is an uncommon clinico-radiological condition that can result in severe brain injury [3]. The PRES can develop in a wide array of situations including pregnancy, post-partum, sepsis, autoimmune diseases, solid organ transplantations and end stage renal disease patients [3–4]. Classic pattern is the involvement of dominant parietal occipital area [1]. Rarely, it can present with fever and significant pleocytosis CSF that may mimic infectious meningoencephalitis as seen in the present case [5]. Our patient may had a seizure episode that could explain pleocytosis in CSF; although Electroencephalogram was normal. In contrast to its name posterior reversible encephalopathy syndrome, it is not always localized to posterior brain and may not be always reversible or benign and mortality can be as high as

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28% [5]. Supportive care, removal of offending agent and to control blood pressure is the cornerstone treatment, which follow with complete resolution of neurological symptoms in most of the cases like the present case.

## CONCLUSION

While the outcome of posterior reversible encephalopathy syndrome (PRES) is mostly benign, a delay in diagnosis may lead to permanent neurologic deficits, and misdiagnosis can be fatal. The cornerstone of treatment is to control the blood pressure or removal of offending agent. One should have a high clinical suspicion for PRES in a patient with predisposing risk factors and compatible clinical scenario to achieve good outcome as in present case.

**Keywords:** Reversible encephalopathy, Encephalopathy syndrome, Posterior reversible encephalopathy syndrome (PRES)

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## Author Contributions

Abdullah Siddiqui – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Yasir Ahmed – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

## Guarantor

The corresponding author is the guarantor of submission.

## Conflict of Interest

Authors declare no conflict of interest.

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