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Case Report

Posterior Reversible Encephalopathy Syndrome in Eclampsia: A Classic Case with Typical MRI Findings

Asma Cherif*, Zineb Labbi, Fadwa Jaheddine, Omar El Aoufir and Laila Jroundi

Département de Radiologie Des Urgences, CHU Ibn Sina, Rabat, Morocco

***Corresponding Author:** Asma Cherif, Département de Radiologie Des Urgences, CHU Ibn Sina, Rabat, Morocco.

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Abstract

Background: Posterior reversible encephalopathy syndrome (PRES) is a neurological condition characterized by acute neurological symptoms and distinctive imaging findings, often associated with hypertensive disorders such as eclampsia.

Case Presentation: We report the case of a 29-year-old primigravida at 34 weeks of gestation who presented with seizures and visual disturbances. MRI revealed symmetrical vasogenic edema in the parieto-occipital regions. Prompt management led to complete clinical and radiological recovery.

Conclusion: This case underscores the importance of recognizing typical imaging patterns of PRES in the context of eclampsia to ensure timely diagnosis and treatment.

Keywords: *PRES; Eclampsia; Vasogenic Edema; Parieto-Occipital; MRI; Hypertension*

Introduction

Posterior reversible encephalopathy syndrome (PRES) is a clinico-radiological entity characterized by acute neurological symptoms such as seizures, headaches, visual disturbances, and altered mental status. It is commonly associated with conditions like hypertension, renal failure, and eclampsia. The hallmark imaging findings include symmetrical vasogenic edema predominantly in the parieto-occipital regions. Early recognition is crucial, as timely management often leads to complete recovery [1,2].

Case Presentation

A 29-year-old primigravida at 34 weeks of gestation was admitted to the emergency department after experiencing two generalized tonic-clonic seizures. She reported a severe headache and blurred vision preceding the seizures. Her blood pressure was 190/110 mmHg. Laboratory tests revealed proteinuria and elevated liver enzymes, consistent with a diagnosis of eclampsia.

An MRI of the brain performed within 12 hours showed symmetrical hyperintensities on T2-weighted and FLAIR sequences in the bilateral parieto-occipital lobes, indicative of vasogenic edema. Diffusion-weighted imaging did not show any restriction, and there was no evidence of hemorrhage.

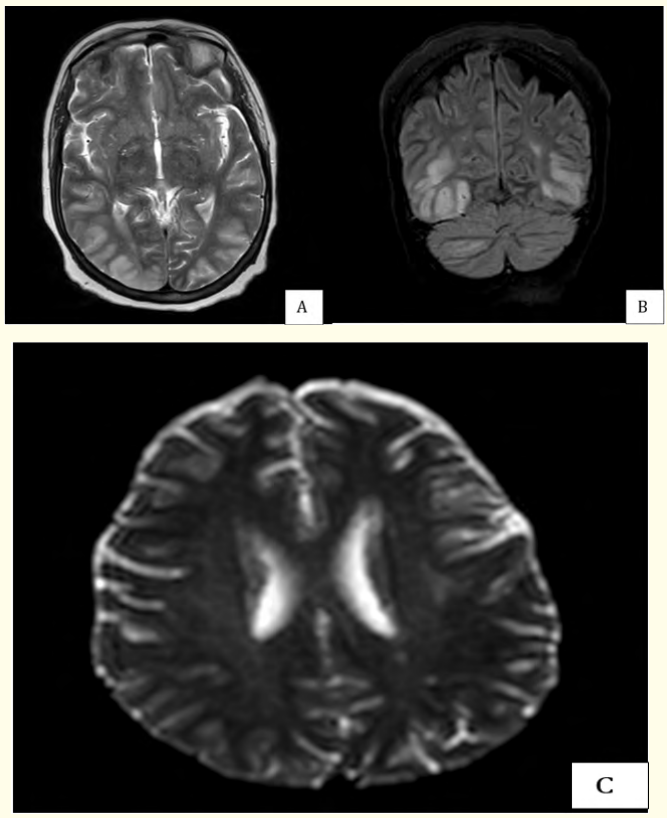

Figure: *A- Axial T2-weighted MRI shows bilateral and symmetrical hyperintensities in the parieto-occipital lobes, consistent with vasogenic edema. B- Coronal FLAIR MRI demonstrates bilateral hyperintense signals in the parieto-occipital regions, consistent with vasogenic edema. C- Diffusion-weighted imaging (DWI) shows no evidence of restricted diffusion, supporting the diagnosis of vasogenic rather than cytotoxic edema.*

The patient was managed with intravenous antihypertensives and magnesium sulfate. An emergency cesarean section was performed. Her neurological symptoms resolved within 48 hours, and a follow-up MRI after two weeks demonstrated complete resolution of the previously noted lesions.

Discussion

PRES is believed to result from a failure of cerebral autoregulation and endothelial dysfunction, leading to vasogenic edema. The posterior circulation territories are particularly susceptible due to their limited sympathetic innervation. Eclampsia is a well-known precipitating factor for PRES, and the imaging findings in this case are characteristic of the syndrome [3,4].

Differential diagnoses include cerebral venous thrombosis, ischemic stroke, and other causes of acute encephalopathy. MRI plays a pivotal role in differentiating PRES from these conditions, with the absence of diffusion restriction and the reversibility of lesions being key features.

Timely diagnosis and management are essential to prevent potential complications such as intracerebral hemorrhage or permanent neurological deficits [5].

Conclusion

This case highlights a classic presentation of PRES in the setting of eclampsia, emphasizing the importance of recognizing typical imaging features to facilitate prompt diagnosis and treatment, thereby ensuring favorable outcomes.

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