Amidst the Confusion: Posterior Reversible Leukoencephalopathy Syndrome

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LEARNING OBJECTIVES
1) Recognizing the clinical features and predisposing factors of posterior reversible leukoencephalopathy syndrome (PRES).
2) Understanding the important role of early detection and treatment for reversing this condition.

THE CASE

History of Present Illness:
A 24-year-old woman presented to the emergency department with sudden onset of severe headache and confusion. Shortly after arrival, she had a witnessed generalized tonic-clonic seizure. She was then intubated for airway protection. Her family reported that she had not had any fevers, chills, rash, loose stools, or neck stiffness. She had, however, missed her last dialysis appointment.

Past Medical History:
1) CKD V on hemodialysis due to renal dysgenesis.
2) Hypertension.
3) Anemia of chronic inflammation.
4) MSSA Endocarditis.

Past Surgical History:
1) Cadaveric kidney transplant in 1998 with failure and chronic rejection secondary to medication non-compliance.

Medications:
Prednisone, CellCept, Fosrenol, Amlodipine, Folic acid, Epogen, Citalopram, Ercalcitriol, Calcium Acetate, B-Complex with Vitamin C.

Physical Exam:

Laboratory Data: Normal except for creatinine of 11.7 and BUN of 57

CLINICAL COURSE

IMAGING

Figures A-D: T2 FLAIR MRI images.
A, B - Patient at admission. Note the bilateral hyperintense white matter lesions in the posterior distribution.
C, D - Patient at 3 months post discharge. Images show resolution of edematous lesions.

Figures A, B, C, D: T2 FLAIR MRI images. A - Patient at admission. Note the bilateral hyperintense white matter lesions in the posterior distribution. B - Images show resolution of edematous lesions.

DISCUSSION

Posterior Reversible Leukoencephalopathy Syndrome (PRES) is a rapidly evolving neurologic condition characterized by severe headaches, vision changes, altered consciousness, and seizures.1-4 Classically, MRI imaging reveals edematous lesions located primarily in the posterior parietal and occipital lobes.1-4 PRES is a rare condition that is easily overlooked, but should be considered in patients with risk factors including acute hypertension, renal disease, solid organ transplant, the use of immunosuppressants, and pregnancy with eclampsia.1,4 Therefore, prompt recognition is crucial for establishing appropriate treatment to reverse this neurologic syndrome and achieve a favorable clinical outcome.

CONCLUSIONS

1) Symptoms of PRES include acute onset of headache, vision changes, seizures, and confusion.
2) Edematous lesions of the posterior and occipital lobes on MRI are classic features of PRES.
3) Immunosuppressive agents, hypertension, renal disease, and pregnancy are risk factors for PRES.
4) Early recognition and treatment of PRES can result in complete reversal of its clinical effects.

REFERENCES