

## **Abstract Title: POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME**

Abstract Text: POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME or PRES is a recently described neurological syndrome defined by characteristic clinical and MRI findings. Many physicians are not aware of this potentially reversible entity that may be misdiagnosed as cerebritis or stroke. If unrecognized or associated factors are not mitigated, condition may progress. PRES has been described most frequently with hypertension/eclampsia, immunosuppressive therapy/cytotoxic drugs, or less often, vasculitis i.e. lupus. We present three cases to illustrate the classic clinical and imaging findings in the syndrome.

Case 1: 57 yo heart transplant patient, presented with headache, visual disturbances, and AMS. Brain MRI showed subcortical edema within posterior parietal-occipital and cerebellar hemispheres consistent with vasogenic edema. Viral, fungal and CSF studies were negative. After discontinuation of tarcolimus, repeat MRI 3 days later showed decreasing subcortical white matter edema. Patient recovered within a week.

Case 2: 41 yo 27 week gravid female with preeclampsia. Brain MRI showed bilateral frontoparietal and parietoccipital white matter increased T2 signal intensity suggestive of encephalitis vs. progressive multifocal leucoencephalopathy. Deep grey matter was spared. Post emergent C-section for eclampsia day 7 MRI showed stable extensive flair abnormalities in posterior parietal and occipital regions. Patient was discharged 3 days later.

Case 3: 19 yo female with hyperemesis gravidum and no history of preeclampsia or HTN develops new onset seizure on post partum day #1. Patient was hypertensive before seizure onset. Brain MRI shows FLAIR and T2 abnormal signal in both parietal lobes with restricted diffusion but no enhancement and no hemorrhage. Brain MRA showed no evidence of vascular stenosis, occlusion. Later on, blood pressure normalized with minimal to no medication and patient suffered no other convulsive episode. Neurology did not prescribe any antiepileptic therapy.

Discussion: PRES is neuroradiological syndrome that is typically associated-as with our patients with either acute hypertensive changes or immunosuppressive therapy; most notorious are cyclosporine and tarcolimus. Cardinal symptoms include headaches, visual disturbances, altered consciousness and seizures. Both of our patients presented with these symptoms. The presumed mechanism is cytotoxic vs. vasogenic edema where uncontrolled hypertension overwhelms cerebral autoregulation. Characteristic MRI findings are lesion's predilection for the posterior white matter sparing the cortex and no limitation to one specific vascular territory. Both of our patients had diffuse subcortical white matter changes. Involvement of the brain stem and cerebellum is not uncommon. Cornerstone of treatment is blood pressure control with symptomatic management of seizures and/or withdrawal of offending agents. These measures are often sufficient to make the condition completely reversible. As there are no specific diagnostic criteria for the syndrome, awareness of the syndrome, high suspicion index combined with characteristic MRI findings in the right clinical setting remain crucial for the reversible prognosis.

Category: Clinical Vignette

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