

Posterior Reversible Encephalopathy Syndrome : Case presentation

NILANJAN BANDYOPADHYAY , VANITA PEREIRA ; Warwick Hospital

Objective: To raise awareness about PRES as a manifestation of various clinical conditions

Case Report:

Primi; 33 years; BMI: 22.07. Low risk CMW led care. Diagnosed as GDM. USS @ 34 and 37 weeks: Growth above 97th centile - had planned LSCS at 39 weeks.

Following LSCS all were normal till discharge.

Called LW on 5th day postnatal – C/O back spasms and mild headache.

On 9th day patient had generalised tonic-clonic convulsions and neck stiffness, was violent and combative. No epilepsy history or PET complains. BP was normal; she had temperature of 38, Hyper reflexic, generalised rash, ALT 102. Neurology referral done. Managed as eclampsia – MagSo4 started.

CT/CT Venogram and MRI were done - Multifocal abnormalities in cortical and subcortical interface of B/L frontal and parietal lobes and cerebellum; vasogenic edema, no other abnormalities. Patient was started on Keppra. VST was ruled out.

Blood cultures negative; Covid negative;

Review by Neurologist: Diagnosis of Posterior Reversible Encephalopathy Syndrome (PRES) was made by exclusion.

Follow up MRI showed complete resolution of previously seen supra and infra white matter changes in frontal and parietal lobes confirming PRES.

Discussion: PRES is a clinico-radiological syndrome characterized by encephalopathy(50-80%), a headache(50%), seizures(60-75%), altered mental status and visual disturbances(33%), status epilepticus (10-15%) and characterized by white matter vasogenic edema affecting the posterior occipital and parietal lobes of the brain predominantly. PRES can also be found in a non-posterior distribution, mainly in watershed areas, including within the frontal, inferior temporal, cerebellar, and brainstem regions Both cortical and subcortical locations are affected.

In PRES, the autoregulatory response is impaired, leading to breakdown of the normal blood–brain barrier and culminating in vasogenic brain oedema.

'PET/ET: "Delayed Eclampsia"; Infection/Sepsis/Shock, Autoimmune disease; Renal disease; Cancer Chemotherapy; Transplantation; Hypertension; Sickle cell disease; Immunosuppressive drugs; Blood transfusion.

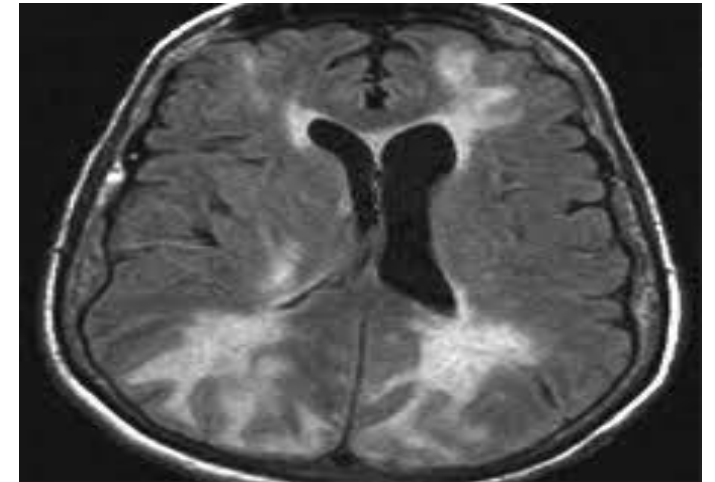
D/D: •ischemic stroke; VST; intracranial hemorrhage; HTN emergency; meningoencephalitis; malignancy; eclampsia and toxic/metabolic encephalopathy.

•Diagnosis of PRES is often made after exclusion of other emergent conditions.

Diagnosis: CT/ CT venogram/ MRI/MRV. MRI: •The characteristic findings include subcortical and cortical vasogenic edema seen on T2 weighted sequences.

PRES has association with COVID 19 as well. Risk factors are hypertension and diabetes. Tocilizumab, an IL6 receptor inhibitor, has been linked to PRES, due to its endothelial modulation properties

The extent of reversibility depends on how quickly diagnosis is made and how soon the factors favouring development are addressed. When PRES is associated with pre-eclampsia, management follows the treatment algorithm for severe pre-eclampsia with blood pressure control, prevention and/or treatment of seizures and prompt delivery of the baby.



References:

Headache in pregnancy: TOG 2014, Kirsty Revell MB ChB MRCOG, Paul Morrish MRCP DRCOG DM

PRES: [Oxf Med Case Reports](#). 2017 Apr; 2017(4): omx011. Sreenivasa rao Sudulagunta , Mahesh Babu Sodalagunta et al

(PRES): Features on CT and MR imaging; [E.Hugonnet^aD.Da Ines^aH.Boby^bB.Claise^cV.Petitcolin^aV.Lannareix^aJ.-M.Garcier^a](#); [Diagnostic and Interventional Imaging Elsevier](#) Volume 94, Issue 1, January 2013, Pages 45-52