Coexisting Cerebral Venous Sinus Thrombosis and Posterior Reversible Encephalopathy Syndrome in a Pre-Eclamptic Female

Sonal Saran¹, Pradeep Bansal², Saurabh Singhal³, Ankita Malik⁴

A 25-year-old woman, G1 P0, at 35 weeks and 3 days of gestation, presented with severe headache for two days duration. She had no history of use

Fig. 1: (a), (b) and (c) Axial T2 weighted MRI sequence shows hyperintense signal changes in cortical-subcortical areas of bilateral parietal and occipital lobes which appear hypointense on T1 weighted sequence (e). (d) Apparent diffusion coefficient map shows no evidence of any restriction of diffusion compatible with vasogenic oedema. (f) MR venogram shows poor visualization of right transverse and sigmoid sinus suggestive of venous sinus thrombosis.

Fig. 2: Follow up MRI brain with venography was performed 1 month later which shows (a) and (b) no obvious signal alteration in parietal and occipital lobes on T1 and T2 weighted images which suggest almost complete resolution of the abnormality. (c) MR venogram also shows recanalization of previously thrombosed right transverse and sigmoid sinuses.

¹Assistant Professor, ²Associate Professor, Department of Radiology, ³Associate Professor, Department of Medicine, ⁴Junior Resident, Dept. of Radiology, Subharti Medical College, Meerut, Uttar Pradesh

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of oral contraceptives. At presentation her blood pressure and heart rate were 180/120 mmHg and 85 b/m respectively. She was hospitalized at our institute for evaluation of severe pre-eclampsia. Ultrasonographic examination detected a growth restricted fetus corresponding to 30 weeks 0 day gestational age. Fetal heart rate monitoring showed absence of fetal heart rate variability. Two doses of betamethasone 12 mg each were given intramuscularly 24 hours apart for fetal lung maturation. Antihypertensive treatment with 10 mg sublingual nifedipine was started and repeated after 30 minutes. Single live male baby was delivered by cesarean section. Mother’s complete blood counts, renal and liver function tests were within normal limits.

Prophylactic intravenous MgSO4 (1g/h) treatment was started due to prodromal symptoms of headache and visual disturbance and continued 24 h after delivery. On postoperative day 2, patient was consulted with Neurology Clinic since patient’s headache worsened and she had blurring of vision. On neurologic examination papilloedema was detected.

MRI brain with venography was performed which were consistent with posterior reversible encephalopathy syndrome (PRES) and cerebral venous sinus thrombosis (CVT) (Figure 1).

All laboratory tests to detect coagulation abnormalities were within normal range.

Under intensive care setting, Anticoagulation was started with low molecular weight heparin (LMWH) and patient was discharged on postoperative day 7. LMWH was continued for four weeks followed by oral warfarin. After 4 weeks, MRI brain with venogram was performed which was normal (Figure 2).

CVT and PRES are two different diseases with almost similar clinical presentation but different treatment protocols. Both have pregnancy and preeclampsia as common predisposing factors. MRI brain with venogram should be performed to confirm the diagnosis.1,2

It is important for both radiologist and treating physician to recognize the conditions and treat accordingly.

References
