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Images in Clinical Medicine

A 15-Year-Old Girl with Cerebral Venous Sinus Thrombosis

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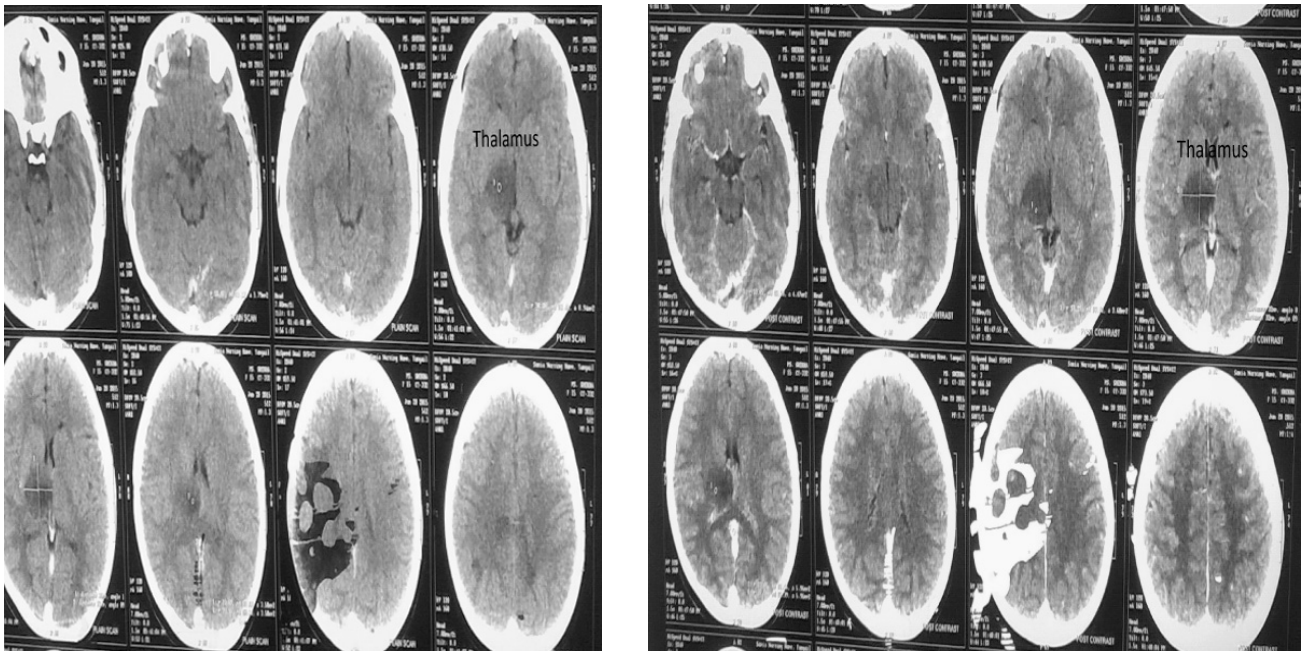

Fig 1. Pre- and post-contrast axial CT scan of brain showing mild-enhancing hypodense lesion in right thalamus

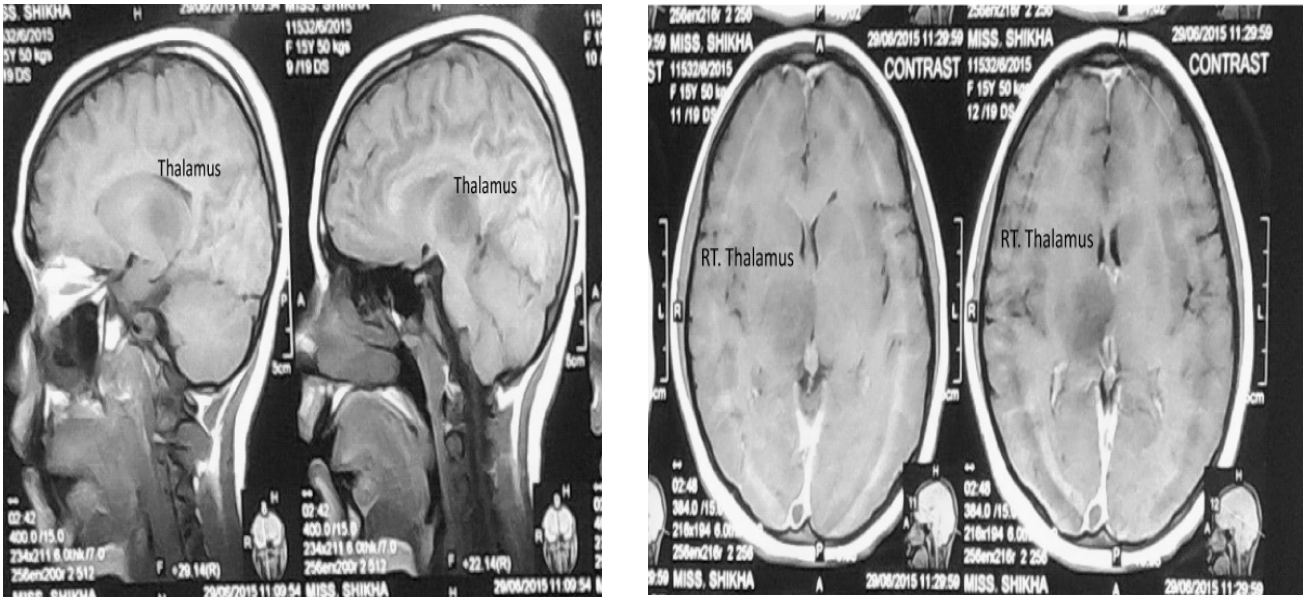

Fig 2. Pre-contrast sagittal and post-contrast axial CT scan of brain. T1WI shows almost rounded altered signal area in right thalamus that is hypointense in T1WI. After I/V contrast, no abnormal enhancement is seen.

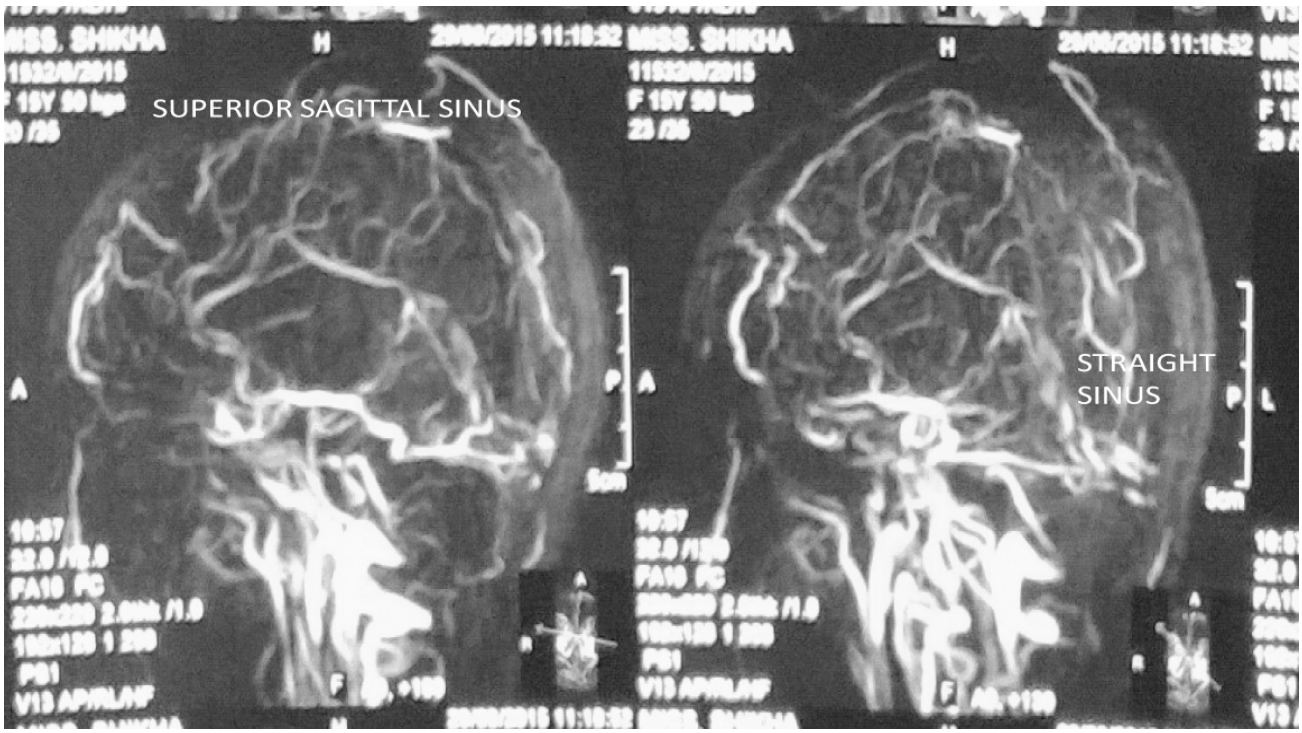

Fig 3. MRV showing filling defects in superior sagittal sinuses and straight sinus

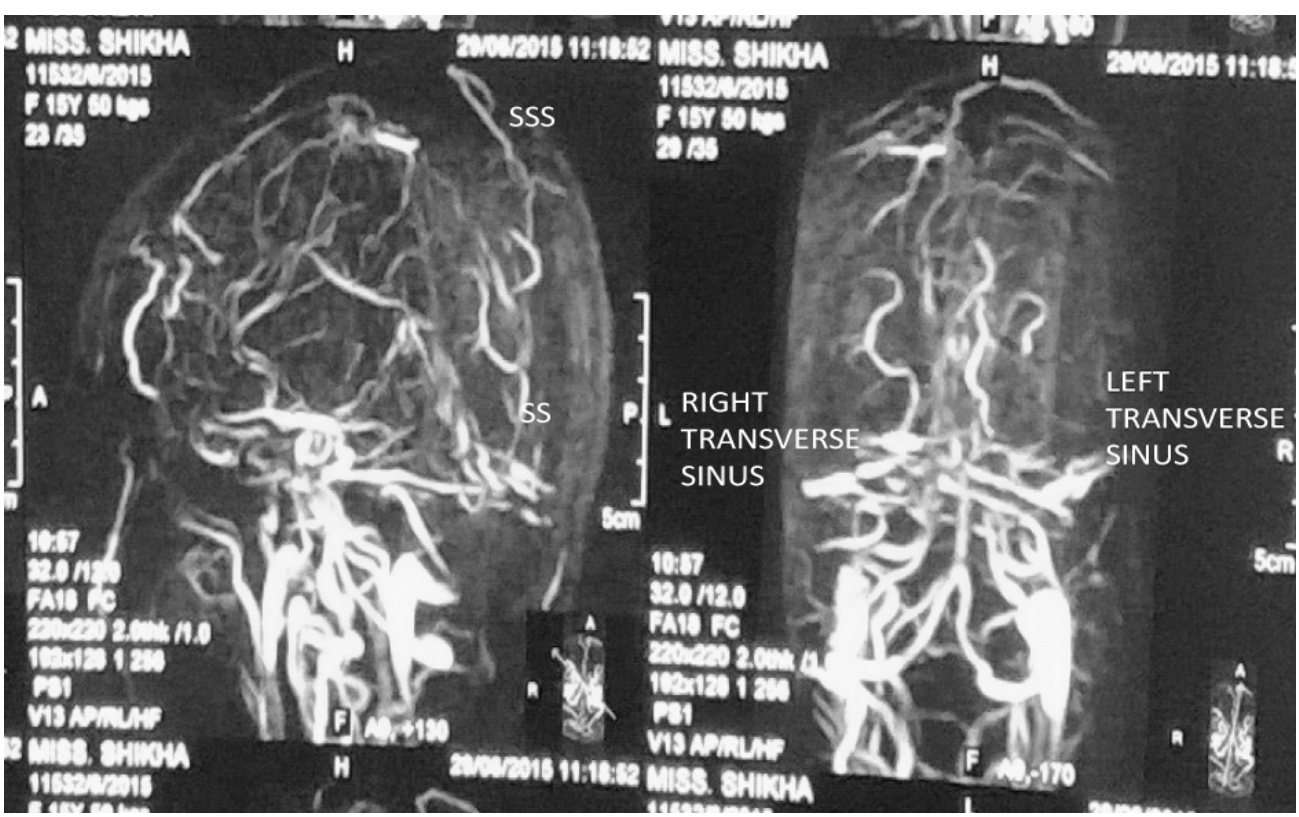

Fig 4. MRV showing filling defects in both transverse sinuses. Numerous collaterals are noted in the dural veins.

A 15-year-old girl presented with severe headache, vomiting and visual disturbance for one week and one episode of convulsion. She was taking oral contraceptive pill for irregular menstruation for last 6 months. On examination she was conscious and oriented. Her visual acuity in both eyes was 6/16. Neurological examination revealed no other abnormalities. MRI brain showed acute right thalamic infarct. Magnetic resonance venography (MRV) revealed thrombus in transverse, straight and superior sagittal sinuses.

Cerebral venous sinus thrombosis is a rare condition which affects 3–4 cases per million per year. Females aged 20–35 years are at highest risk due to intake of oral contraceptive pills and in the postpartum state. In 80% cases, predisposing risk factors are found.[1] These include prothrombotic conditions[1], head injury[2], inflammatory disease[3], dehydration[4] and malignancy[4]. The most frequent symptoms and signs are headache, focal seizures with or without secondary generalization, unilateral or bilateral paresis and papilledema. According to The International Study on Cerebral Vein and Dural Sinus Thrombosis, the most commonly affected site is the transverse sinus, followed by superior sagittal sinus and straight sinus.[5] Cortical veins, jugular veins and internal cerebral veins are also affected. Differential diagnoses include tumor, stroke, benign intracranial hypertension.

Treatment is usually started with dose-adjusted intravenous heparin between 3000 and 5000 international units or body-weight-adjusted subcutaneous low-molecular-weight heparin. Intravenous treatment is followed by oral anticoagulation with warfarin to prevent recurrence and thrombosis in other parts of the body.

The prognosis is good in 80% of patients with obstetric causes.[6] It is worse in extremes of age, in malignancy and sepsis, and in the presence of coma or deep cortical venous thrombosis.[7] It has a mortality rate of between 5 and 10%.[6]

Acknowledgement

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