

Sinovenous Thrombosis

Joseph Junewick, MD FACR

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History

Morbidly obese teenager with polycystic ovary syndrome presenting with ear pain and visual disturbance.

Diagnosis

Sinovenous Thrombosis

Additional Clinical

Recently started on oral contraceptives.

Protein C activity = 59% (N 75-150%)

Protein S activity = 42% (N 60-150%)

Mechanical thrombectomy and thrombolysis was performed in this patient.

Discussion

The cerebral venous system consists of deep venous system, superficial venous system, and dural sinuses. The dural venous sinuses serve as the major venous drainage pathway. The right and left transverse sinus and superior sagittal sinus are more predisposed to thrombus formation. On the basis of the results from a large multicenter cohort of children (6 days to 12 years) with SVT in the United States, transverse sinus thrombosis was more common (73%) than sagittal sinus thrombosis (35%). The superficial and deep venous system was involved in (15%) children, and multiple sinuses were involved in more than 70% of patients. Venous infarction, intracranial hypertension and hydrocephalus are the main complications of sinovenous thrombosis and as such presenting symptoms may include seizures, papilledema, headache, lack of consciousness, or lethargy, and focal neurological deficits.

Previously established risk factors include local or systemic infections, vascular trauma, cancer, acute lymphocytic leukemia, drug toxicity, lupus erythematosus, nephrotic syndrome, dehydration, asphyxia, maternal problems during pregnancy, Behcet's disease, and metabolic disorder. Other published data have suggested that multiple additional factors including prothrombotic risk factors contribute to the onset of SVT.

The classic finding of sinus thrombosis on unenhanced CT images is hyperattenuation of the occluded sinus, but this sign is insensitive. Hyperattenuation is present in only 25% of sinus thrombosis cases. If increased attenuation in a sinus is present on unenhanced CT, the patient should be evaluated with enhanced CT or MRI studies. Unenhanced MR imaging is more sensitive for the detection of SVT than unenhanced CT because the absence of a flow void and the presence of altered signal intensity in the sinus are the key findings on MR imaging. In the acute stage of thrombus formation (0-5 days), the signal is predominantly isointense on T1-weighted images and hypointense on T2-weighted images because of deoxyhemoglobin in the thrombus.

Findings

CT-Post-contrast axial image reveals bilateral jugular vein filling defects.

MR-Venography demonstrates absence or attenuation of flow within the dural sinuses.

Reference

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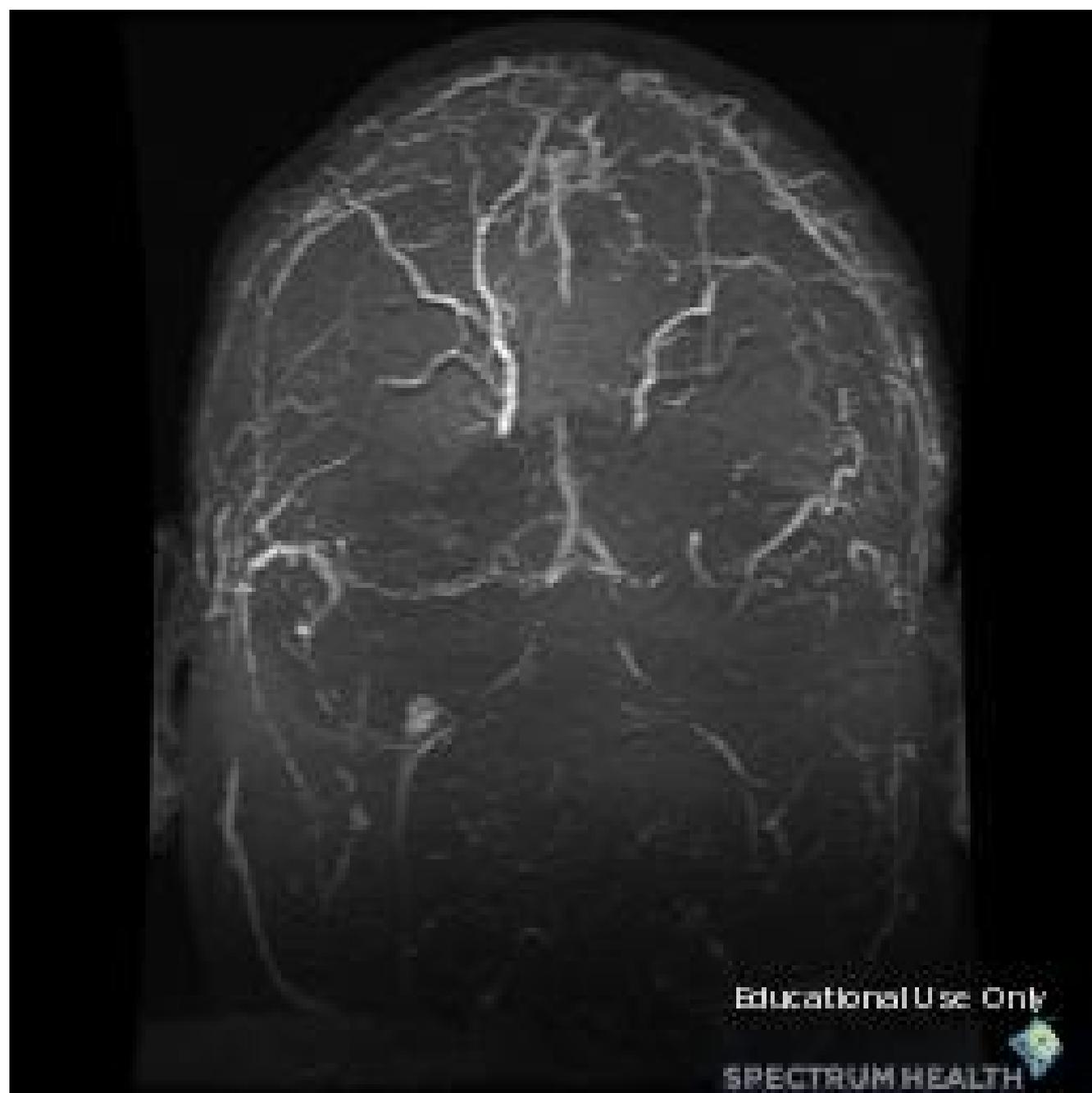
Contributor

Brian Fedeson, MD



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