Hemorrhagic venous infarction
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History
16 year old female with four day history of headache and acute change in mental status. History of two days of oral contraceptive use and otherwise no other significant medical history.

Diagnosis
Hemorrhagic venous infarction and dural venous sinus thrombosis

Discussion
Cerebral sinovenous thrombosis is not an uncommon condition in children and can have serious clinical consequences. The diverse clinical presentation has made CSVT diagnosis difficult and often delayed. In the pediatric age group, neonates comprise the largest group with sinovenous thrombosis. The venous drainage of the cerebral hemispheres is divided into the superficial and the deep systems. The superficial system consists of the SSS, the transverse sinuses, torcular, sigmoid sinuses, and the internal jugular veins. The deep system consists of the deep basal veins draining into the paired internal cerebral veins that unite with the inferior sagittal sinus and then drain into the vein of Galen, the straight sinus, and the torcular.

CT/CTV is a rapid, readily available, and accurate technique for the detection of CSVT, particularly useful in younger patients or those needing a shorter exam time. MR imaging/MRV is another accurate technique that is particularly useful in older children, because of their relatively clinically stable condition and tolerance for a longer imaging (compared with CT) time. In addition, MR imaging/MRV has the advantages of providing soft tissue information without ionizing radiation. Intracranial venous hypertension plays an important role in the pathophysiology of brain parenchymal changes. It is assumed that increased venous pressure causes decrease in cerebral blood flow and cerebral perfusion pressure. This might induce an energy failure and a disruption of the blood-brain barrier that results in vasogenic edema and hemorrhagic transformation from increased venous pressure.

Findings
Axial non contrast CT demonstrates cortical hemorrhage within the right temporal lobe with associated edema. Axial CTA demonstrates lack of enhancement of the right sigmoid sinus compared to the left. T1 and T2 MRI images demonstrate intermediate signal in the right sigmoid dural venous sinus.

Reference
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