



Visual Diagnosis

An Unusual Holohemispheric Abnormality**Genevieve K. Gabriel, MD #1,***, **Debopam Samanta, MD #2**, **Sarah Cobb, MD #3**

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This five-year-old previously healthy boy presented after a 20-minute seizure-like episode. He felt unwell, complained of nausea, and then fell to the ground rigid with eye deviation toward the right. A cranial computed tomography scan showed left parietal encephalomalacia. At his six-month follow-up, he remained seizure free without antiepileptic medication. However, he had experienced several headaches per week since the initial presentation. Electroencephalography was normal. Brain magnetic resonance imaging revealed a left holohemispheric developmental venous anomaly (DVA) (Fig).

DVAs are low flow, clustered dilatation of the superficial or deep venous system in the brain. They drain normal brain tissue. DVAs are often present as incidental findings on neuroimaging. It is the most common form of congenital vascular variant resulting from aplasia, hypoplasia, or early occlusion of normally developing veins;

however, holohemispheric DVAs are rare.¹ Individuals with DVAs are usually asymptomatic and only rare reports of seizures, headache, and hemorrhage are available, mostly in association with cavernous malformation, or secondary to stroke or hemorrhage. The pathophysiology of symptomatic DVA's can either be mechanical or flow-related.²

This brief report highlights a symptomatic patient due to a holohemispheric DVA in the absence of other associated malformation. Left hemispheric atrophy may be due to impaired deep venous drainage and chronic venous hypertension. Stenosis at the dural crossing or focal thickening of the collecting vein wall may be responsible for the outflow obstruction.

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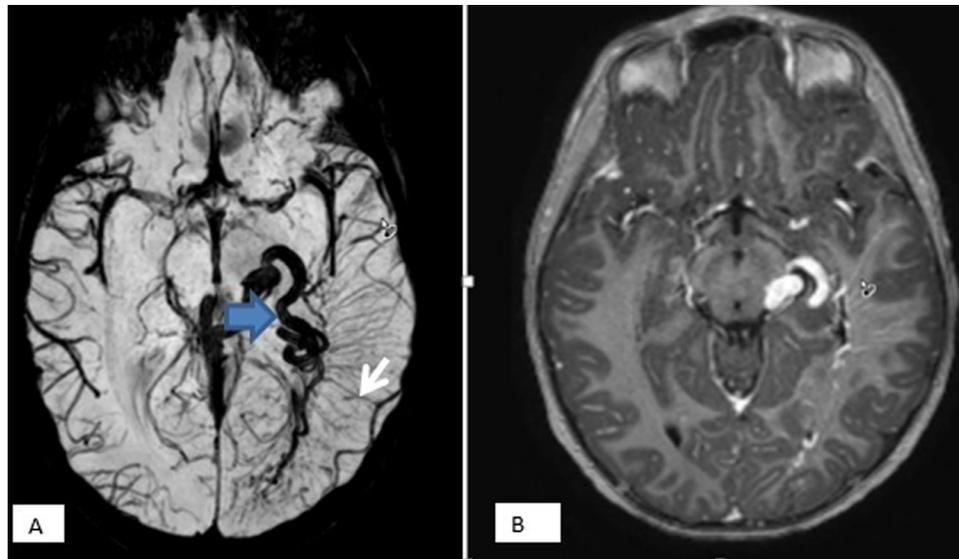
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#1: Conceptualized the study and drafted the manuscript, #2: formatting of the MRI and revision of the manuscript, #3: revision of the manuscript.

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**FIGURE.**

Susceptibility weighted image (A) shows left holohemispheric developmental venous anomaly; multiple venous radicals constituting the medusa head (white arrow) with convergence to a singular recipient vein (blue arrow) which courses along the left lateral ventricle to enter to the deep venous system. Contrast-enhanced image (B) shows conspicuous visualization of the draining vein. The color version of this figure is available in the online edition.

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