

STROKE IMAGES

COVID-19-Associated Cerebral Developmental Venous Anomaly Thrombosis With Hemorrhagic Transformation

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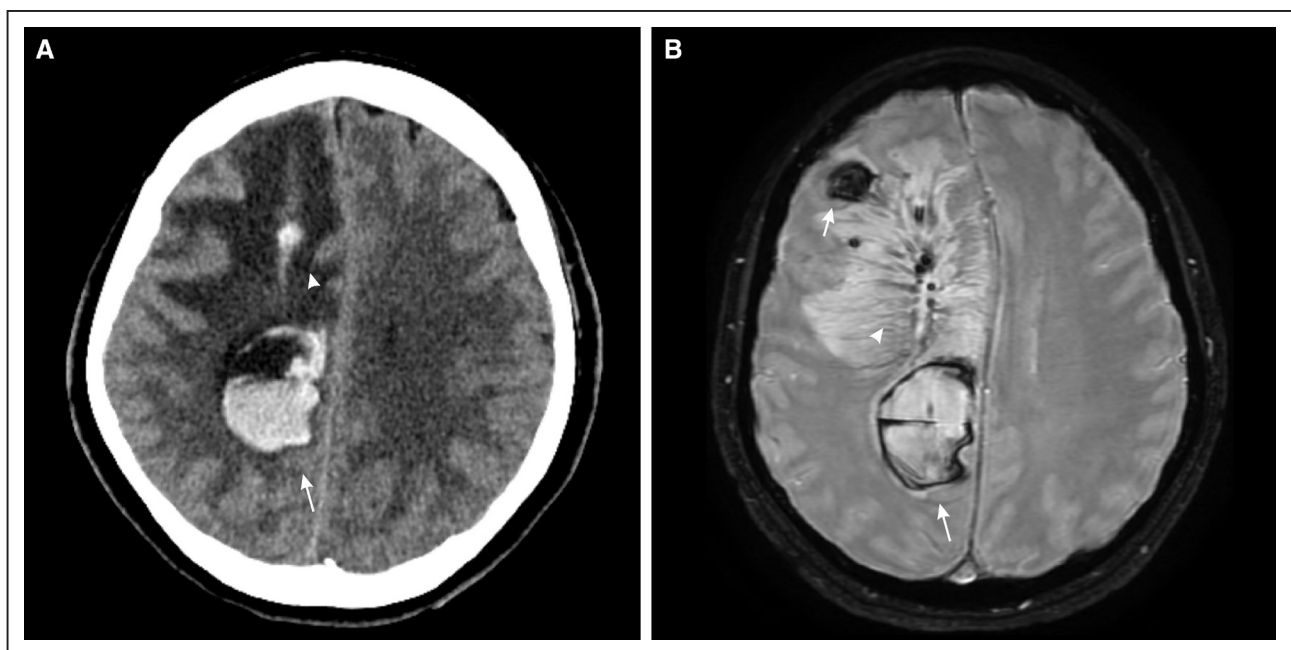


Figure 1. Axial head computed tomography (CT) and magnetic resonance imaging in a patient with seizures and COVID-19 infection.

A, Axial noncontrast CT and at the level of the centrum semiovale showing a thrombosed developmental venous anomaly (arrowhead) with large right hemisphere intracerebral hematoma (arrows) and midline shift. **B**, Axial 3-dimensional susceptibility-weighted angiography at a slightly caudal cut showing 2 foci of intracerebral hemorrhage and the developmental venous anomaly in greater detail.

A 35-year-old man with a 1-week history of fever, cough, and myalgias presented with left hemiparesis and seizures requiring intubation. A COVID-19 polymerase chain reaction test was positive. No other thrombotic risk factors were identified. Neuroimaging demonstrated right-sided intracerebral hemorrhages

associated with a thrombosed developmental venous anomaly (Figure 1). Computed tomography venography showed thrombus within a dilated caput medusae venous trunk (Figure 2A). He was started on heparin infusion but worsened neurologically with expanding hematoma. He underwent emergency decompressive

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craniectomy before resuming anticoagulation, with recanalization of the developmental venous anomaly (Figure 2B). One month later, he entered inpatient rehabilitation with mild left-sided weakness. Severe COVID-19 infection has been linked to venous thromboembolic events such as deep venous thrombosis, pulmonary embolism,¹ and cerebral venous sinus thrombosis.² This patient's synchronous COVID-19 infection was presumed to have contributed to his developmental venous anomaly thrombosis.

ARTICLE INFORMATION

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None.

KEY POINT

Developmental venous anomaly thrombosis is a rare complication associated with hypercoagulable states, including COVID-19 infection.

Disclosures

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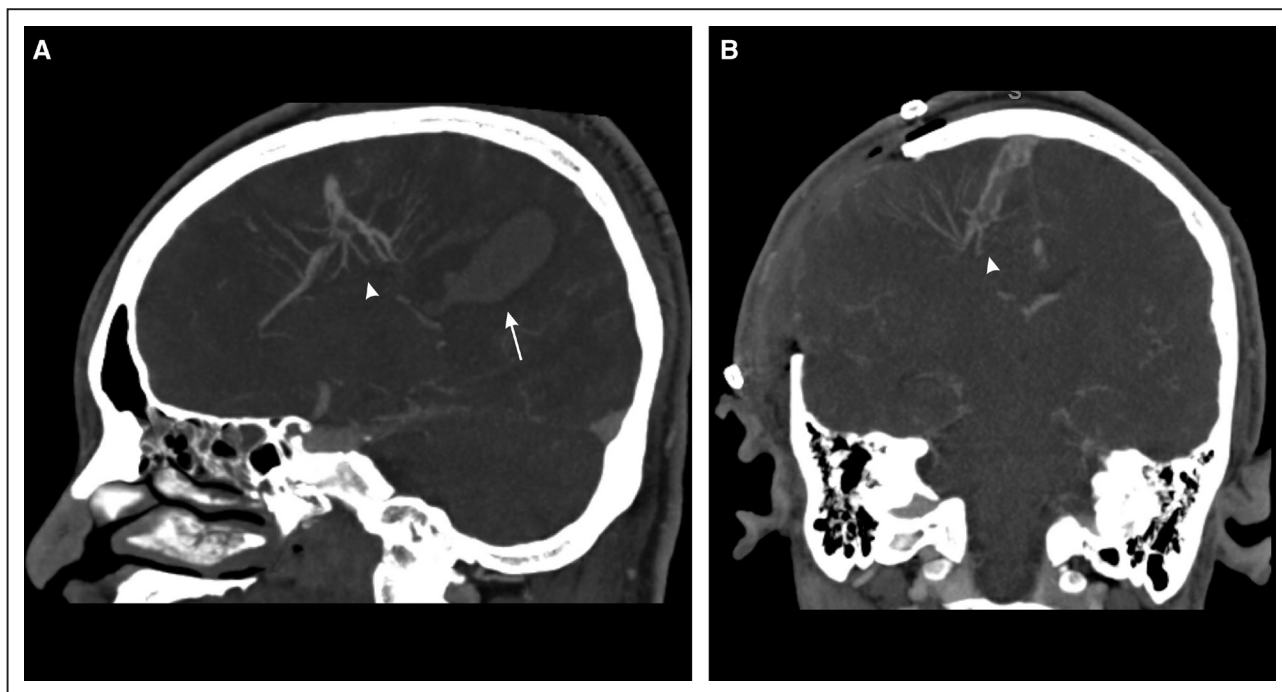


Figure 2. Computed tomography (CT) venogram in a patient with seizures and COVID-19 infection.

A, Paramedian sagittal CT venogram showing the caput medusae trunk of the developmental venous anomaly (DVA; arrowhead) feeding towards the superior sagittal sinus, with the large hematoma seen posteriorly (arrow). **B**, Coronal CT venogram showing a partially recanalized thrombosed DVA (arrowhead) leading towards the superior sagittal sinus, after decompressive craniectomy.