A Rare Site of Ischemic Stroke: Bilateral Corpus Callosum Infarction

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Infarctions of the corpus callosum are not common due to its rich vascular supply.[1,2] Infarcts on both sides are extremely rare and may be observed due to anatomical variations. Here we present a patient with an infarction of the corpus callosum on both sides. A 51-year-old man was admitted to neurology clinic with a 1-week history of dizziness, vertigo, confusion, and numbness in the hands. The patient had a history of diabetes mellitus and hypertension and was not compliant with medical treatment. His neurological examination revealed decreased deep tendon reflexes and mild ataxia; there was no motor deficit. Cranial computerized tomography showed bilateral hypodensity in the corpus callosum (Figure 1). Magnetic resonance imaging revealed bilaterally restricted diffusion in the

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Figure 1. Cranial computed tomography shows hypodensity in the corpus callosum.

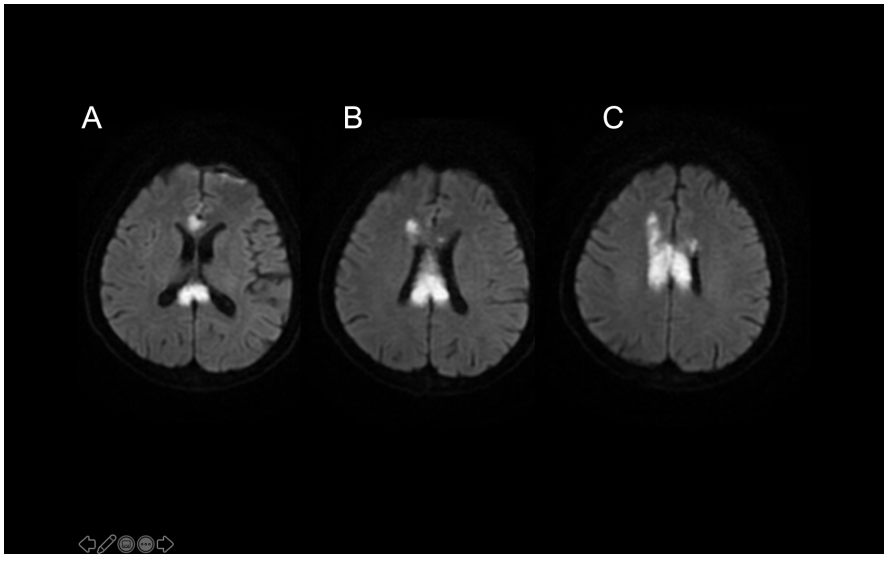

Figure 2. Diffusion-weighted magnetic resonance imaging revealed bilaterally restricted diffusion in the (A) genu, splenium, and (B, C) body of the corpus callosum.

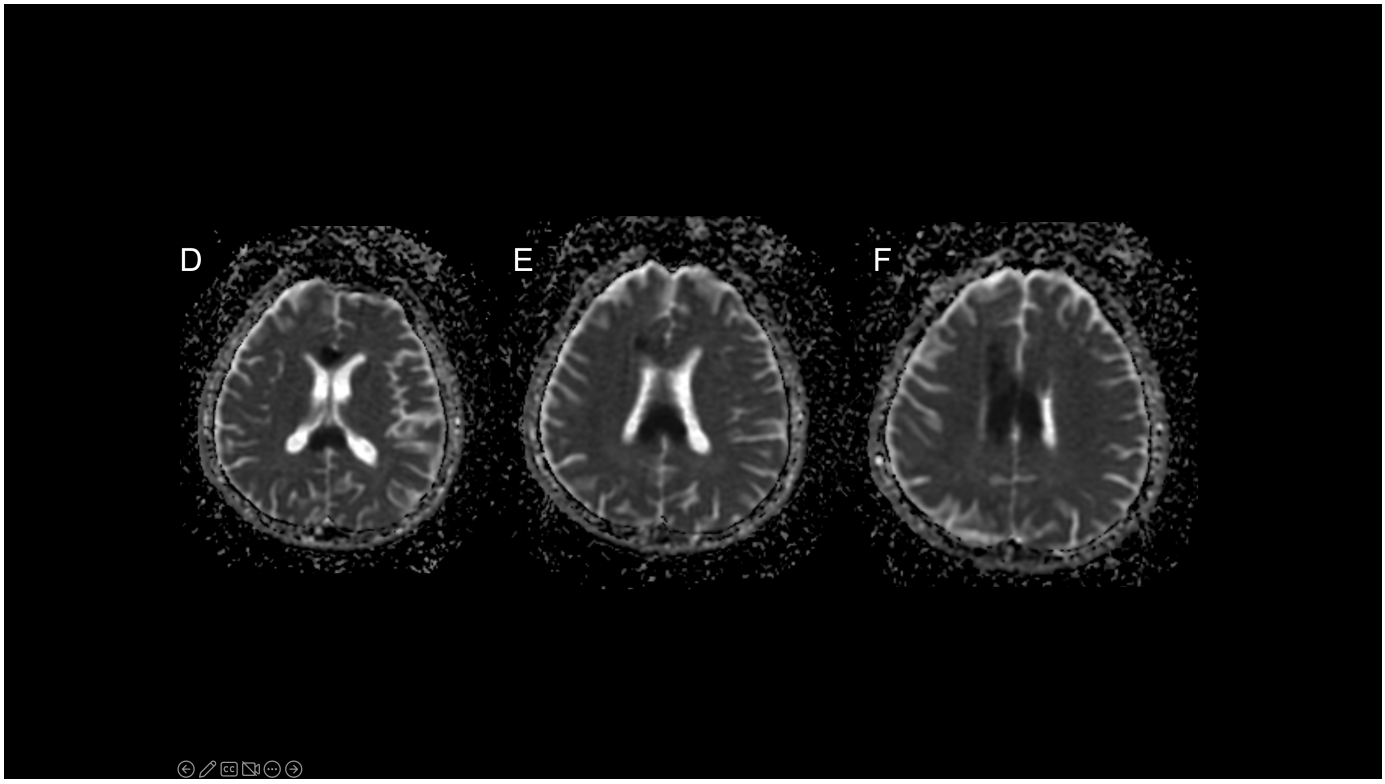

Figure 3. Apparent diffusion coefficient (ADC) images showing hypodensity in the same areas.

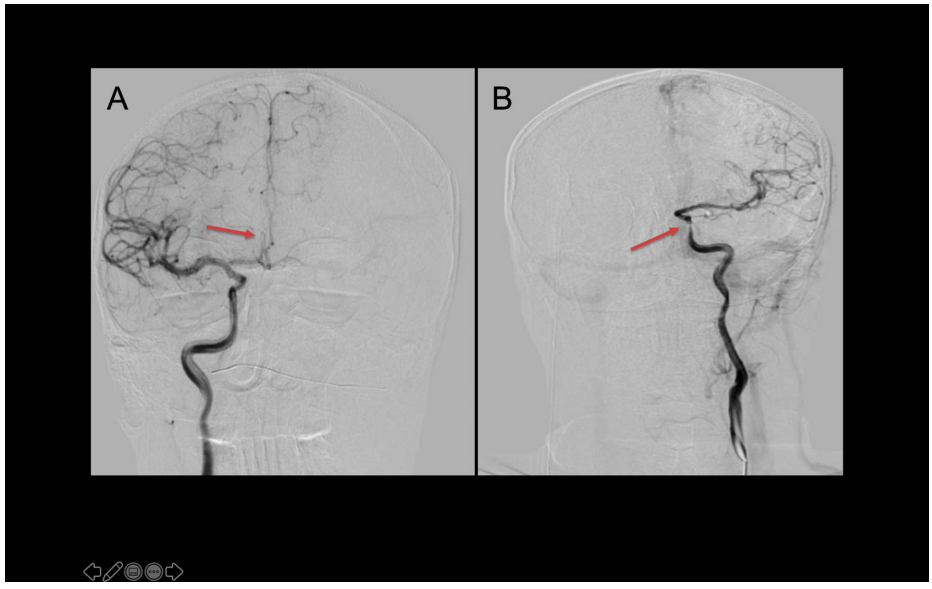

Figure 4. Digital subtraction angiography showing (A) single pericallosal occlusion deriving from the right A2 trunk and (B) stenosis in the supraclinoid segment of the left internal carotid artery.

body of the corpus callosum, extending to genu and splenium (Figure 2 and 3). Extensive blood tests, including the vasculitic panel, were negative. Cardiac workup was normal. Digital subtraction angiography showed a single pericallosal branch (A2 segment) originating from the right anterior cerebral artery supplying both hemispheres was occluded (Figure 4). Stenosis was observed in the supraclinoid segment of the left internal carotid artery. It was observed that the left middle cerebral artery was fed from the right middle cerebral artery via the anterior communicating artery. Dual antiplatelet therapy, high-dose statin, insulin, and oral antihypertensive therapy were started in the patient with intracranial atherosclerotic disease. At the last examination after 3 months he had no complaints except mild dizziness, which he occasionally experienced, and the neurological examination was normal. Infarctions of the corpus callosum are not common due to its rich blood supply from anterior, posterior, and collateral circulations. Slowly evolving and nonspecific symptoms may often lead to diagnostic challenges

and delays in treatment.[1,2] Infarcts commonly involve 1 side and most commonly involved site is the splenium;[1,2] however, infarcts on both sides may rarely be observed due to anatomical variations.[3,4,5] The majority of the corpus callosum is supplied by the pericallosal arteries (the small branches and accompanying veins forming the pericallosal moustache) and the posterior pericallosal arteries, branches from the anterior and posterior cerebral, respectively. In 80% of patients, additional supply comes from the anterior communicating artery, via either the subcallosal artery or median callosal artery. Bihemispheric anterior cerebral artery represents 1 hypoplastic A2 segment, with the other A2 segment providing the major blood supply to both hemispheres. The prevalence of this variation is 2%-7% in cadaveric studies.[6] Although atherosclerosis and embolism may be responsible for the etiology, large-artery atherosclerosis is seen more frequently.[1,2] Short-term prognosis is good, although long-term prognosis may be poor; therefore, secondary prevention is important.

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