



## Images in Clinical Medicine

### Incomplete anterior choroidal artery syndrome in a pregnant female

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A 30-year-old female gravida 3 at 30 weeks of gestation presented with mild left occipital headache followed by sudden onset right-sided numbness for the last 12 h. On examination, she was found to have right-sided hemianopia and hemianesthesia. There was no limb weakness and no cerebellar signs or impairment of higher cortical dysfunction. Blood pressure was normal at 117/73 mmHg. An urgent noncontrast computed tomography (CT) brain showed the presence of ill-defined white matter hypodensities predominantly in the left temporo-occipital lobe [Figure 1]. Interestingly, subsequent magnetic resonance imaging (MRI) brain showed hyperintensities in the left thalamus, left parahippocampus, and posterior limb of the left internal capsule, which suggests infarction in the left anterior choroidal artery territory. The diffusion-weighted imaging and apparent diffusion coefficient which were high and low, respectively, confirmed that it was an acute stroke [Figure 2]. Extensive investigations including echocardiogram, carotid Doppler ultrasound, serum lipid, glucose, immunologic, and thrombophilia screen did not show any abnormalities. Antiplatelet therapy was initiated, and there

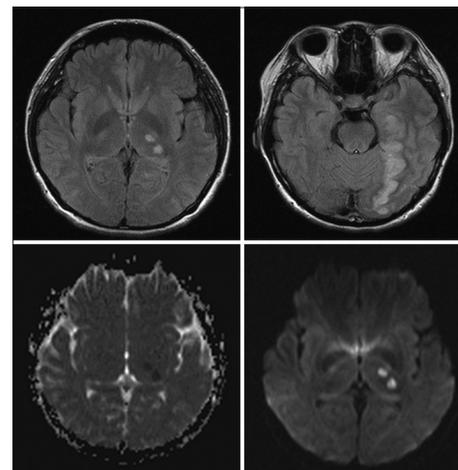
was complete resolution of the neurological deficit over the next few days.

Anterior choroidal artery infarct was first described by Foix *et al.* in 1925. Complete occlusion of the anterior choroidal artery is labeled as anterior choroidal artery syndrome, in which patients present with a triad of hemiplegia, hemianesthesia, and contralateral hemianopia [1]. Fortunately, an incomplete form is more common, and the clinical presentations are less severe, with a better prognosis. The prevalence of anterior choroidal artery infarct is estimated to be around 2.5%–11% out of total ischemic strokes [2].

Anterior choroidal artery is a distal branch of the internal carotid artery. It supplies the posterior two-thirds of the



**Figure 1:** Ill-defined white matter hypodensities in the left temporo-occipital lobe on computed tomography brain



**Figure 2:** Magnetic resonance imaging brain: hyperintensities in the left thalamus, left parahippocampus, and posterior limb of the left internal capsule. The diffusion-weighted imaging and apparent diffusion coefficient images were high and low, respectively

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posterior limb of the internal capsule, the nearby optic and acoustic radiations, the medial globus pallidus, and the tail of the caudate nucleus. However, anatomic variations may exist where the anterior choroidal artery arises from the intracerebral carotid bifurcation or from the posterior communicating artery instead of the internal carotid artery, which leads to variations in the territory supplied among individuals. Furthermore, the structures supplied by anterior choroidal artery have rich collaterals from near arteries leading to a wide range of clinical manifestations.

The most prevalent risk factor for anterior choroidal artery infarct is hypertension, followed by hyperlipidemia, smoking, and diabetes mellitus. However, the underlying prothrombotic state of pregnancy may also predispose to anterior choroidal artery stroke due to changes in cardiovascular hemodynamics and in the coagulation mechanisms during pregnancy. The risk is especially higher during the third trimester and postpartum period [3]. Assessment in consecutive imaging of CT or MRI scans and in multiple sequences such as coronal, axial, and sagittal view is paramount in diagnosing anterior choroidal artery infarct due to its variability in territorial distribution which may lead to confusion with other types of large artery occlusion such as middle cerebral artery (MCA), posterior cerebral artery (PCA), or MCA-PCA watershed infarct. This

case highlights the typical CT and MRI brain findings in anterior choroidal artery infarct.

#### **Declaration of patient consent**

The authors certify that an appropriate patient consent form has been obtained. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal her identity.

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#### **Conflicts of interest**

There are no conflicts of interest.

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