Acute dysarthria, dense left hemiparesis and left sensory neglect: is it striatocapsular infarction?

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DESCRIPTION

A 52-year-old right-handed hypertensive patient presented with sudden onset of dense flaccid left-sided weakness. There was atrial fibrillation, dysarthria, moderate left-sided facial weakness, left sensory hemineglect and left extensor planter. Her CT brain scan showed a hypodense comma-shaped area at the right basal ganglia. Her brain MRI (figure 1) and MR angiography (figure 2) were obtained on day 2 of admission.

Clinically, the patient seemed to have developed an embolic stroke of the main stem of the right middle cerebral artery (MCA) and one might expect that the whole cerebral territory supplied by the right MCA would have been infarcted.

However, radiologically, the patient had developed right-sided striatocapsular infarction (SCI), which is defined as a comma-shaped infarction at the basal ganglia area of at least 3 cm in length and 1 cm in width as a result of occlusion of the lateral lenticulostriate arteries which stem off the posteriolateral surface of the MCA’s main stem. The overlying cortical areas are spared; although the maximum ischaemia is found at the depth of the hemisphere, but several patients (including ours) demonstrate cortical signs (such as hemineglect). A compromise in the overlying cortical areas, that is not seen by conventional imaging studies, was the suggested mechanism behind the development of cortical signs.

In most patients, dense hemiplegia occurs; the arm weakness is usually more severe than the leg, and this ratio usually persists upon recovery. SCI of the non-dominant hemisphere can result in subcortical dysarthria or hypophonia and hypokinetic speech.
Learning points

▸ Striatocapsular infarction is an uncommon, but special, form of deep hemispheric ischaemic stroke with resultant subcortical neurological deficits with dense hemiplegia. The damaged basal ganglia areas display a highly characteristic comma-shaped infarction.

▸ Associated cortical signs are common but conventional imaging studies (eg, CT or MRI) fail to demonstrate their causative cortical ischaemia.

▸ The site of the arterial occlusion is either the proximal part of main stem of the middle cerebral artery or the carotid T junction; therefore, lateral lenticulostriate arterial ischaemia occurs (with resultant extensive basal ganglia infarction) while the pertinent cortical areas are maintained via trans-cortical and trans-dural arterial anastomoses.

Competing interests None.
Patient consent Obtained.

REFERENCES