

Acute Ischemic Stroke

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A 77-year-old woman with a history of hypertension developed acute onset of aphasia and right hemiplegia and hemisensory loss. She was urgently referred to emergency department. Cerebral multi-detector computed tomographic angiography (MD-CTA) revealed an acute ischemic stroke due to the occlusion of the left middle cerebral artery (Figure 1). Since the symptoms started three hours previously, the patient was candidate for mechanical thrombectomy. The patient then performed a selective digital subtraction angiography (DSA) of the left internal carotid artery that confirmed occlusion of the ipsilateral middle cerebral artery (Figure 2) and subsequently successfully performed the endovascular mechanical thrombectomy (Figure 2). Her clinical course has shown neurological symptoms improvement over time.

Acute ischemic stroke can be caused by several factors, but the main ones are arterial and cardiac embolism, arterial wall disease or variants⁽¹⁻⁴⁾. The National Institutes of Health Stroke Scale (NIHSS) score, is widely used as clinical assessment for neurological deficits related to ischemic stroke⁽¹⁾. MD-CTA and Magnetic Resonance Imaging are the two gold standard methods for diagnosis in acute ischemic stroke patients⁽¹⁻⁵⁾. Thrombolytic therapy of this pathological state began in the fifties, while the endovascular mechanical thrombectomy was defined as a new standard of care in 2015^(1,5,6). This recent technique have added tissue window” to the existing “time window”^(5,6). So, nowadays patients with small ischemic core, large penumbra, and good collaterals vessel may benefit from endovascular mechanical thrombectomy^(1,5,6); even if they arrive within 6–24 h of stroke onset⁽⁵⁾.

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Figure 1: Cerebral multi-detector computed tomographic angiography (MD-CTA) coronal Volume Rendering Technique reconstruction that revealed the occlusion of the left middle cerebral artery (M1 tract) (arrowhead).



Figure 2: Selective digital subtraction angiography of the left internal carotid artery that confirms the occlusion of the left middle cerebral artery (M1 tract) (arrowhead).



Figure 3: Post endovascular mechanical thrombectomy selective digital subtraction angiography of the left internal carotid artery that demonstrates luminal restoration of the left middle cerebral artery and of its branches.

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