Severe MCA stroke without MCA occlusion?

Thrombectomy uncovers accessory middle cerebral artery

Figure 1 Conventional angiography

(A) Conventional angiography demonstrates the thrombus (*) at the right internal carotid artery bifurcation occluding the anterior cerebral artery but right middle cerebral artery was well-perfused. (B) After thrombectomy, an accessory middle cerebral artery (white arrow) originating from the right A1 segment (black arrow) was uncovered.

Figure 2 Cerebral MRI and time-of-flight magnetic resonance angiography

(A) The next day's MRI with diffusion-weighted imaging (DWI) sequences demonstrates an infarction restricted to the lentículostriate territory. (B) Time-of-flight magnetic resonance angiography (TOF-MRA) reveals the accessory middle cerebral artery in the right and a duplicated middle cerebral artery in the left hemisphere.

A 21-year-old woman presented with dysarthria and severe left-sided hemiparesis. CT angiography detected a thrombus at the right distal internal carotid artery, but a well-perfused middle cerebral artery (MCA). The mechanism of the clinical presentation was therefore uncertain. IV thrombolysis was performed but she did not improve. Subsequent thrombectomy uncovered an accessory MCA originating from the A1 segment (figure 1). Neurologic deficits improved promptly and MRI demonstrated a lentículostriate infarction (figure 2). Accessory MCA is an anatomical variant occurring in 0.4%.¹ This case illustrates that knowledge of rare variants may become important especially in the emerging era of mechanical thrombectomy.

Anna Bayer-Karpinska, MD, Jürgen Lutz, MD, Tobias Birnbaum, MD, Marianne Dieterich, MD, FANA, Frank Arne Wollenweber, MD

From Ludwig-Maximilians-University (A.B.-K., J.L., M.D., F.A.W.), Munich; and Helios Amper-Klinikum (T.B.), Dachau, Germany.

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Correspondence to Dr. Bayer-Karpinska: anna.bayer@med.uni-muenchen.de

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