Fenestration of the internal carotid artery mimicking floating thrombus on CT and MR angiography

Figure Vascular imaging of the left internal carotid artery

CT angiography (A, 1–2) and magnetic resonance angiography (A, 3–4) showed a defect within the left internal carotid artery connecting the internal wall (arrowhead). Three-dimensional rotational angiography with reconstructions (B: digital subtraction angiogram in 1 and volume rendered images in 2 and 3) and derived cross-sections (C: axial views in 1 and coronal view in 2) demonstrated a typical fenestration with a wide separation on the internal side (arrowheads) that became very narrow on the opposite side (dotted arrows).

A 19-year-old woman presented with transient right sensory-motor deficit following headache. Brain MRI was normal but magnetic resonance angiography and CT angiography showed an endoluminal defect within the left internal carotid artery (ICA) that was interpreted as a floating thrombus (figure, A). Three-dimensional rotational angiography demonstrated a short ICA fenestration,¹ an incidental finding in an atypical migraine attack (figure, B and C). Fenestration refers to segmental duplication of the lumen into 2 distinct channels. While well-known on anterior communicating or basilar arteries, fenestrations of the supraclinoid ICA are rare and diagnosis can be difficult on cross-sectional images.²

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