

## Locked Out: Basilar Dependent Cerebral Circulation in the Setting of Acute Stroke

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### Description

A 73 year-old man with past medical history of atrial fibrillation, not on warfarin, severe peripheral vascular disease, coronary artery

disease, hypertension, dyslipidemia was speaking with a co-worker and suddenly lost consciousness, dropping to the floor.

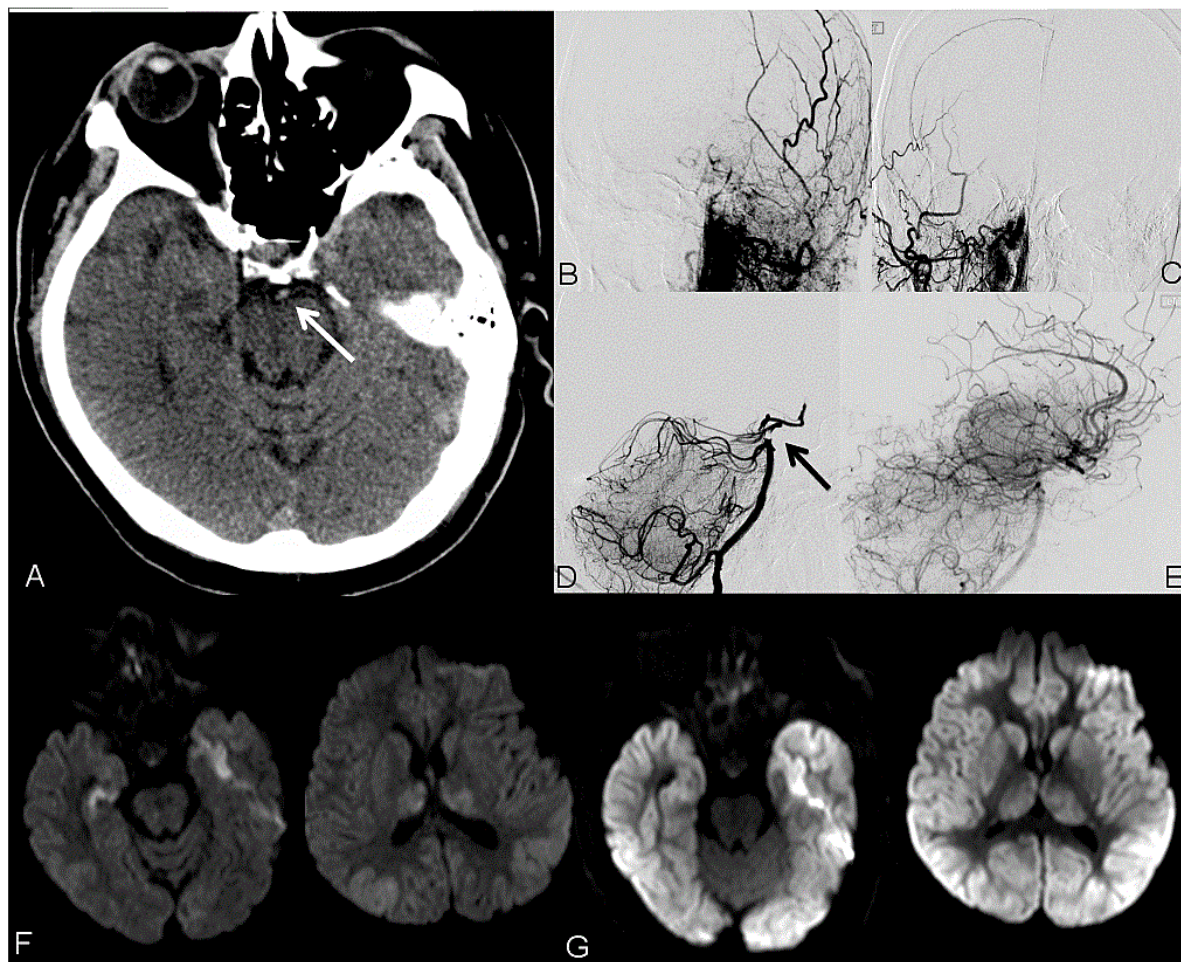


Figure 1: Representative CT, conventional angiography, and diffusion weighted MRI in the patient.

He arrived to the emergency department posturing, and he was intubated. Non-contrast head CT demonstrated a probable basilar artery clot (Figure 1A), this was confirmed on CTA, and tPA was administered 31 minutes after arrival and 53 minutes after last-known-

well. He was taken for angiography. Left (Figure 1B) and right (Figure 1C) common carotid artery injections demonstrated bilateral occlusion of the internal carotid arteries and minimal flow through the sphenopaltine and ethmoidal arteries in a retrograde fashion into

the supraclinoid ICAs. The left vertebral artery was dominant, and injection (Figure 1D) demonstrated a tip of the basilar filling defect (arrow), with extension into the right posterior cerebral artery, and minimal cerebral filling. Between the first and second left vertebral artery runs, the posterior circulation recanalized spontaneously (Figure 1E), while tPA was still infusing; 85 minutes post arrival to the emergency department and 107 minutes post symptom onset. Follow up diffusion-weighted imaging obtained 10 hours after onset demonstrated mildly restricted diffusion in the bilateral thalami, with

subtle restricted diffusion in the cortex (Figure 1F). Despite revascularization, the patient remained comatose and imaging was obtained at 43 hours post onset for prognostication (Figure 1G). The MRI at that time demonstrated complete sparing of the pons and brainstem. His family opted for comfort measures after discussion with the treating physicians and review of the images. Detailed review of the angiogram indicated the bilateral carotid artery occlusions were chronic, as the left vertebral artery, right posterior communicating artery, and the anterior communicating artery were dilated.