Perfusion alterna in Takayasu arteritis

Figure CT perfusion map revealing alternating hyper- and hypoperfusion

FLAIR sequences reveal right cerebral (A) and left occipital (D) swelling with midline shift. CT perfusion map shows right cerebral hyperperfusion and left frontal hypoperfusion (B). Axial DWI 3 weeks later shows left frontal cerebral infarction (C). The MRA (same day as A) demonstrates absent left internal carotid arterial flow due to proximal stenosis (E, arrows).

A 48-year-old woman with Takayasu arteritis had a worsening headache and left limb weakness. Blood pressure measured 150/75 mm Hg from the right arm. Brain MRI showed right cerebral and bioccipital swelling (figure, A, D). The MRA revealed proximal left common carotid artery and ipsilateral internal carotid artery stenosis (figure, E) and the CT perfusion map revealed alternating hyperperfusion on the right hemisphere and hypoperfusion on the left (figure, B). Controlled blood pressure lowering over the next several days resulted in complete recovery. Two weeks later following an emergent abdominal surgery that was complicated by transient hypotension to 100/65 mm Hg, she developed expressive aphasia with right hemiparesis (figure, C). Left carotid stenosis protected from effects of high systolic pressure, yet predisposed to an ischemic stroke from blood pressure lowering.

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