Embolism from External Carotid Artery and Stroke

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A 75-year-old male presented with an acute left-sided hemiparesis. He was a smoker, without other traditional stroke risk factors. Diffusion-weighted imaging showed ischemic lesions in the right hemisphere (Fig. 1A). Computed tomography angiography and cranial magnetic resonance angiography revealed bilateral internal carotid artery occlusions and bilateral external carotid artery stenosis with patent intracranial arteries (Fig. 1B, C). Transcranial Doppler...
(TCD) suggested collateral pathway from right external carotid artery via ophthalmic artery to right internal carotid artery (Fig. 2 A, B). A microembolic signal was unexpectedly detected in right external carotid artery during TCD evaluation (Fig. 2C).

Theoretically, the emboli from external carotid artery may enter brain via anastomotic collaterals and cause a stroke, although the stump of internal carotid artery was hypothesized to be a source of emboli as well (2). To our knowledge, this case is the first description of a microembolic signal in external carotid artery, suggesting external atherosclerosis may play a potential causal role in stroke.

**REFERENCES**