Teaching NeuroImages: Delayed nonischemic cerebral enhancing lesions post endovascular coil embolization

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Figure 1 Angiographic imaging

(A) Anterior communicating artery aneurysm post embolization using the penumbra SMART coil system (arrow). (B) CT angiography head with hyperdense lesion and surrounding edema noted in the left parietal white matter (arrow).

A 50-year-old woman underwent embolization of an anterior communicating artery aneurysm, via the left internal carotid artery, using the penumbra SMART coil system. Follow-up CT angiography at 16 months revealed a 2-mm hyperdense lesion in the left parietal lobe (figure 1). MRI confirmed multiple punctate enhancing foci with surrounding edema favored to represent nonischemic cerebral enhancing (NICE) lesions (figure 2). NICE lesions are rare complications of coil embolization putatively associated with nickel allergy or coil emboli,¹ although the SMART coil system is platinum based. The patient remained asymptomatic and further workup was withheld. Follow-up MRI at 1.5 months showed resolution.

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Disclosure

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Figure 2 MRI brain

Each image (A–E) includes baseline imaging (left) with follow-up imaging 1.5 months later (right) demonstrating resolving lesions. (A, B) T2 fluid-attenuation inversion recovery axial views encircling foci with vasogenic edema. (C, D) T1-weighted post contrast axial views encircling several 2–3 mm enhancing cortical and sub-cortical lesions in the left parieto-occipital lobe. (E) Axial diffusion-weighted imaging encircling a small region of diffusion restriction.

Appendix Authors

Name	Location	Contribution
Margaret V. Bettin, MD	Department of Neurology, University of Virginia, Charlottesville	Primary drafting and revising of the manuscript
Andrew M. Southerland, MD, MSc	Departments of Neurology and Public Health Sciences, University of Virginia, Charlottesville	Conceptualization of the study, acquisition and interpretation of the data, drafting and revising the manuscript

Reference

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