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SHORT COMMUNICATION

Delayed recurrent enhancing white matter lesions complicating coiling of intracranial aneurysm

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Abstract

Background and purpose: In recent years, the use of coiling has gained increased popularity for the treatment of intracranial aneurysms, and stroke physicians are confronted with rare pathologies associated with this relatively new and evolving treatment method, such as embolization of pieces of the polymeric filaments from the coils and a subsequent inflammatory response. In particular, white matter enhancing lesions are a rare complication after aneurysm endovascular therapy (EVT), suggesting a foreign body reaction to shedding of hydrophilic coating from the endovascular devices into the blood stream. The description of such a case aims to raise the clinicians' awareness of the symptomatic delayed and recurring inflammatory changes that may occur after endovascular aneurysmal treatment with the use of coiling devices.

Case description: A 64-year-old woman underwent coiling of a ruptured right posterior communicating artery aneurysm. She was asymptomatic after EVT. One year later, she presented with headache, acoustic hallucinations, paresthesias and left arm weakness. Brain magnetic resonance imaging (MRI) revealed multiple enhancing white matter lesions in the right hemisphere. She was treated with pulse intravenous methylprednisolone, followed by oral prednisolone; all clinical symptoms resolved and imaging findings improved substantially. Two years after tapering the steroids, follow-up symptoms recurred and repeat brain MRI revealed new enhancing white matter lesions.

Discussion and conclusions: There is an increasing number of similar reports of enhancing white matter lesions after coiling of intracranial aneurysms, with the incidence estimated to be between 0.5% and 2.3% in different cohort studies. Close monitoring for the appearance of new neurologic symptoms that could suggest delayed brain reactivity should be recommended.

KEYWORDS
coiling, enhancing white matter lesions, immune reaction, intracranial aneurysm, vasogenic edema

