RESIDENT & FELLOW SECTION

Teaching NeuroImages: High-resolution MRI before and during a sentinel headache demonstrates aneurysm wall hemorrhage

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A 3T brain MRI, performed in a 48-year-old woman presenting with progressive headaches, demonstrated a 20-mm unruptured saccular basilar artery aneurysm. High-resolution vessel-wall MRI showed a chronic mural thrombus and a circumferential aneurysm wall enhancement (figure), an imaging marker of aneurysm instability.[1] Two days later, she had

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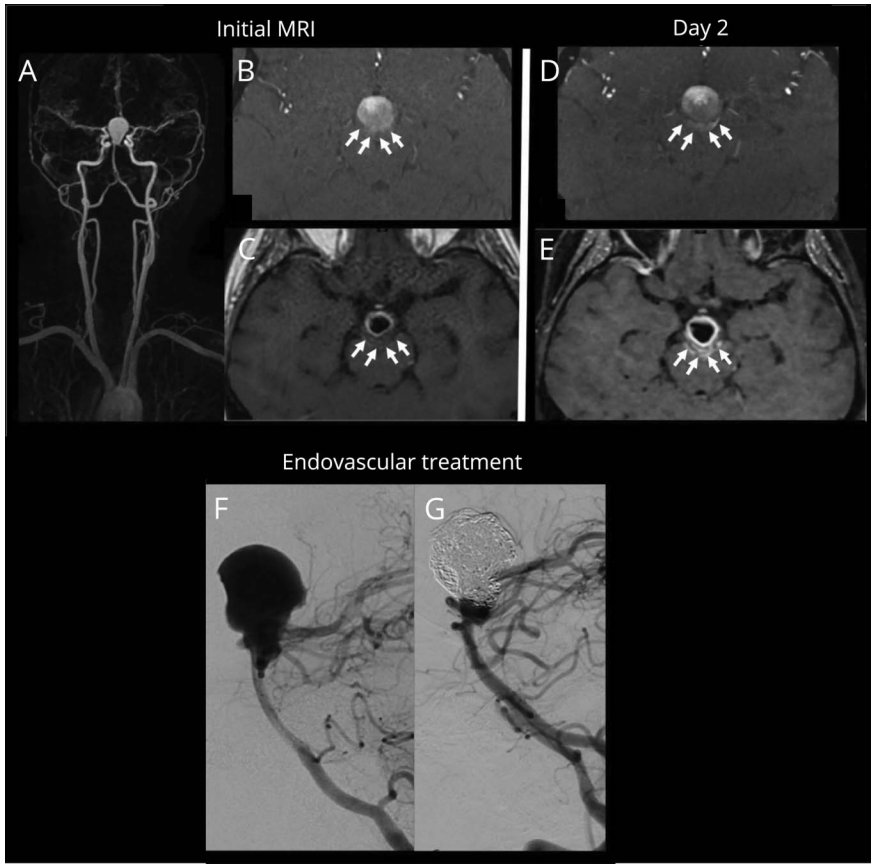
Figure High-resolution vessel wall MRI before and during sentinel headache



(A) Giant basilar tip aneurysm on magnetic resonance angiography. Comparison between high-resolution vessel-wall imaging performed before (B, C) and during sentinel headache (D, E) demonstrates aneurysm wall mural hematoma modification with T1-crescentic hyperintensity and contrast uptake (arrows) and thickened circumferential aneurysm wall enhancement. Digital subtracted angiography, lateral view, is shown before (F) and after (G) aneurysm coiling.

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a transient thunderclap headache, considered the worst headache she had ever reported. Repeated 3T MRI demonstrated acute mural hemorrhage without subarachnoid hemorrhage. Sentinel headaches, reported in every fourth patient preceding aneurysm rupture,[2] have been interpreted as reflecting a warning for subarachnoid leak or, alternatively, structural wall changes, such as stretching or acute mural hemorrhage.

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Name	Location	Contribution
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