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Teaching NeuroImage: Carotid Web: A Thrombogenic Nest Not to Miss

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A 61-year-old woman suffered a territorial infarction due to right middle cerebral artery occlusion. CT angiography and ultrasonography showed an ipsilateral carotid web with a small superimposed thrombus (Figures 1-2). After two weeks on enoxaparin and aspirin the thrombus resolved completely and the patient underwent uncomplicated carotid stenting, in the absence of other stroke causes. Carotid web, an intimal variant of fibromuscular dysplasia, is an underestimated cause of cryptogenic stroke, notorious for being missed or taken for atheroma by ultrasonography¹. It may have a high rate of stroke recurrence under antiplatelets owing to thrombus nesting along its blood-stagnation-causing downstream surface.²

[AZ 12.28.2021] 178088 Teaching Slides -- <http://links.lww.com/WNL/B755>

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Figure 1. Right carotid CT angiography upon admission and after antithrombotic treatment.

Oblique sagittal thin-slice reformatted (A, D), volume-rendered (B, E) and intraluminal volume-rendered images (C, F) showing the diaphragm-like web attached to the posterior wall of the carotid bulb (arrows). A beak-like protuberance on the cephalad web surface corresponds to in situ thrombus (A-C, arrowheads), missing at follow-up (D-F) and confirming thrombus resorption.

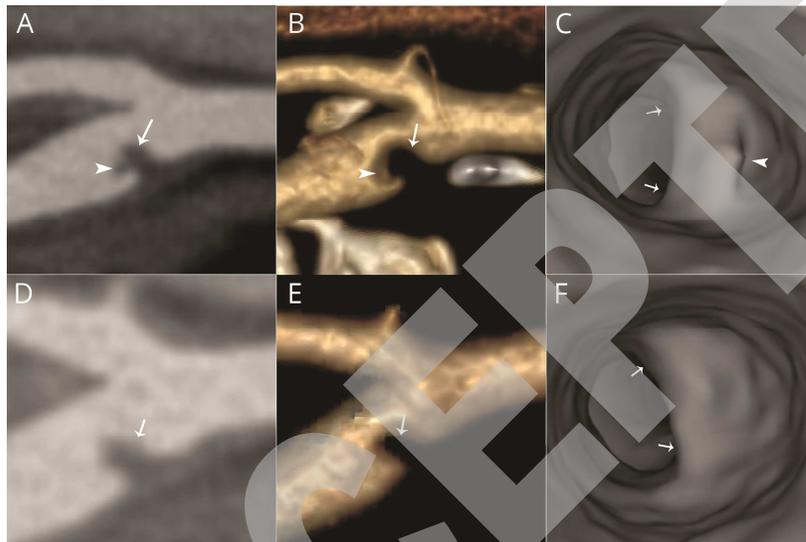
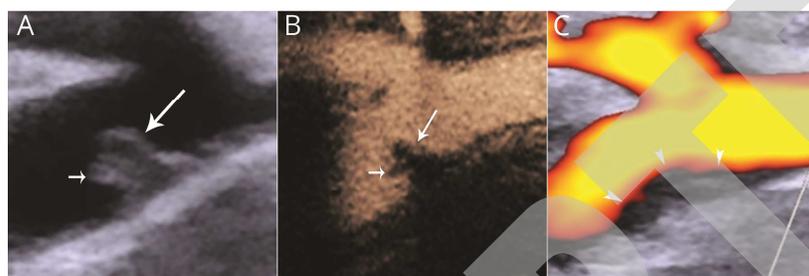


Figure 2. Right carotid ultrasonography upon admission

Longitudinal B-mode (A) and Sonovue-enhanced image (B) showing the echogenic and irregular web protruding into the lumen (long arrows) along with the superimposed distal web-surface thrombus (short arrows). Compare to the “beak” in Figure 1, A-C. On power-Doppler flow imaging the web mimics the appearance of a non-stenosing isoechogenic atheroma (C, arrowheads).



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