Teaching Video NeuroImage: Amaurosis Fugax Due to Recurrent Central Retinal Artery Occlusion by Microemboli

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A previously healthy 71-year-old woman with hypercholesterolemia and current tobacco use presented with transient painless vision loss in the left eye without other neurological abnormalities. The 30-second episodes, followed by a recovery, repeated in 2–3-minute intervals. Microemboli passing through central retinal artery (CRA) vasculature (video) originated from a complicated atherosclerotic plaque in the left internal carotid artery (figure). After receiving intravenous thrombolysis 5 hours after symptom onset, she reported a scotoma in the inferior part of her left eye, which persisted 2 years later. Retinal embolism from carotid artery disease is the most common cause of CRA occlusion.

Video
Microemboli passing through the superior temporal branch of the central retinal artery. The video was acquired from an ocular slit lamp via hand-held cell phone camera with 20 frames per second (fps) sampling. Motion artifacts were suppressed with non-linear image registration utilizing Elastix libraries. The resampled 40-fps-video was exported twice as slow.
Non-stenotic, mixed (predominantly soft) atherosclerotic plaque (arrows) in the proximal left internal carotid artery with thin calcifications on CT angiography sagittal (A) and axial (B) slices. Reconstructed fundus image (C) showing microemboli (encircled yellow arrow). Perimetry at 3-month follow-up corresponding to the reported scotoma (D).

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