SWI filtered-phase imaging in calcific cerebral embolism secondary to cardiac myxoma

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Figure 1 CT findings in calcific cerebral embolism

Non-contrast axial CT images of the head through the upper brain (A) and lateral ventricles (B) show small calcific emboli along the sulci (black arrows). Note focal edema in the left frontal lobe (white arrowheads in A). Sagittal (C) and axial (D) contrast-enhanced CT images of the chest demonstrate a large hypodense left atrial mass (white arrows) with peripheral calcification (black arrowheads).

A 40-year-old man presented with transient weakness and visual field loss following syncope. Head CT showed multiple sulcal calcifications and a chest CT revealed a partially calcified left atrial myxoma (figure 1).¹ MRI showed foci of restricted diffusion consistent with embolic infarcts.² Calcific emboli are usually atheromatous in nature and have been associated with an increased risk of recurrent stroke.¹ Susceptibility-weighted imaging (SWI) filtered-phase images have shown value in differentiating between paramagnetic (e.g., methemoglobin, deoxyhemoglobin in veins) and diamagnetic (calcium) substances due to their opposed proton phases and therefore opposite signal intensity (figure 2).² Treatment in this case consisted of tumor resection.

Author contributions

G. Silva and N. Fabris: drafting the manuscript, literature revision, and final approval. J. Varvarikos: analysis of CT images, revising the manuscript, and final approval. T. Sills:

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Figure 2 MRI findings in calcific cerebral embolism

Axial DWI slices at the level of the lateral ventricles (A) and posterior fossa (B) show numerous foci of restricted diffusion in a distribution consistent with embolic infarcts (white arrows). On SWI filtered-phase images at the level of the lateral ventricles (C) and upper brain (D) calcifications (white arrowheads) and veins (black arrowhead) show opposite signal intensity.

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