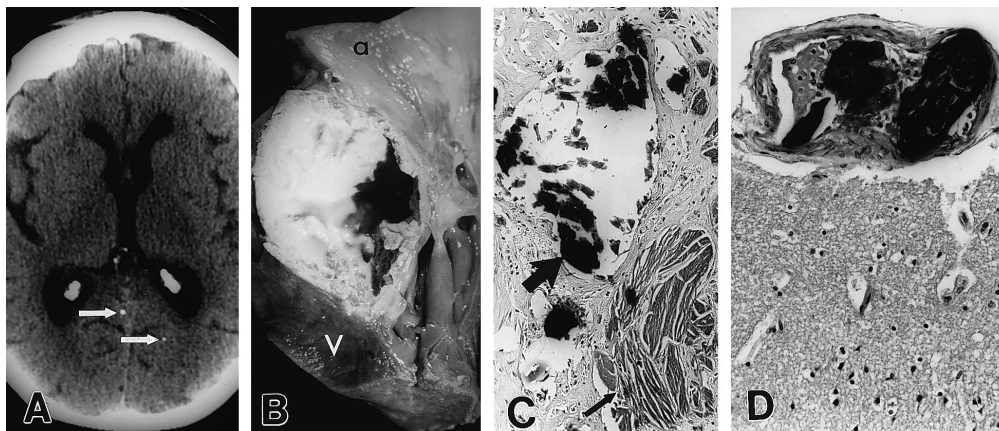


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## NeuroImages



*Figure. (A) Punctate calcifications in brain CT scan (arrows). (B) Vertical section of heart with large MAC cavity between left atrium (a) and left ventricle (V). (C) H-E stain of mitral annulus wall embedded with dark spicules of calcium (thick arrow) and paler, amorphous substance (thin arrow). Original magnification  $\times 100$  before 3.6% reduction. (D) Embolic calcific material in subarachnoid artery, original magnification  $\times 160$  before 3.6% reduction, Luxol Fast Blue stain.*

### Mitral annulus calcareous brain emboli

Maryam Mohammadkhani, MD, Pamela Schaefer, MD, Walter Koroshetz, MD, and E. Tessa Hedley-Whyte, MD, Boston, MA

An 86-year-old woman came to the emergency room reporting a 2-day history of visual flashing lights and “floaters.” Over the next 24 hours, she developed myocardial infarction, right hemiparesis, back pain, coma, and died. Radiographs showed extensive mitral annular calcification (MAC) and multiple punctate calcifications in the brain. Autopsy showed erosion of a massive MAC with extrusion into the left atrium. Material identical to the MAC content was found in vessel lumens of all organs sampled except the lungs. Calcareous matter occluded multiple subarachnoid and brain parenchymal vessels.

Calcific embolization is regarded as a rare complication of this relatively common cardiac condition. Calcareous sys-

temic embolization from MAC has been well documented pathologically but not radiologically. Previously, a small, calcific density on a brain CT scan was suggested to represent calcific embolus from the mitral valve, but without pathologic documentation.<sup>1</sup> Our case provides pathologic confirmation that the punctate calcifications in the brain images correspond to the fatal shower of calcific emboli. The exact incidence of calcific emboli from MAC is unknown. A suggested frequency of 11.3% indicates under-recognition and under-reporting of this complication.<sup>2</sup> This case illustrates that recognition of embolic calcifications on brain imaging enables antemortem diagnosis of MAC rupture.

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## Mitral annulus calcareous brain emboli

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