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Image Article

A Case of Caseous Calcification of the Mitral Annulus Leading to Rupture into Pericardium and Cerebral Infarction

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Abstract

An 84-year-old woman presented with respiratory distress, left hemiplegia, and chest pain for the past few days. Chest Computed Tomography (CT) revealed a hemopericardium with the Caseous Calcification of the Mitral Annulus (CCMA) reduced to a C-shaped structure. We suspected CCMA rupture into the pericardium and subsequent cerebral infarction, and despite intensive care, she died due to cardiac tamponade on day 3.

Keywords: Caseous calcification of the mitral annulus; Cerebral infarction; Hemopericardium

An 84-year-old woman with a history of Mitral valve Annulus Calcification (MAC), hypertension, hypothyroidism, and asthma presented with respiratory distress, left hemiplegia, and chest pain for the past few days. Brain Magnetic Resonance Imaging (MRI) showed new infarct lesions in the right middle cerebral artery region (Figure A). Chest Computed Tomography (CT) acquired one month ago revealed a sphere-shaped Caseous Calcification of the Mitral Annulus (CCMA; maximum diameter 35 mm) located on the dorsal side (Figure B); however, current CT revealed a hemopericardium (Figure C, arrow heads) with the CCMA reduced to a C-shaped structure (Figure C, arrow). We suspected CCMA rupture into the pericardium and subsequent cerebral infarction, and despite intensive care, she died due to cardiac tamponade on day 3.

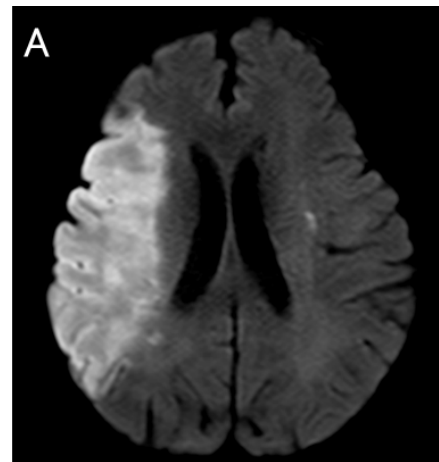
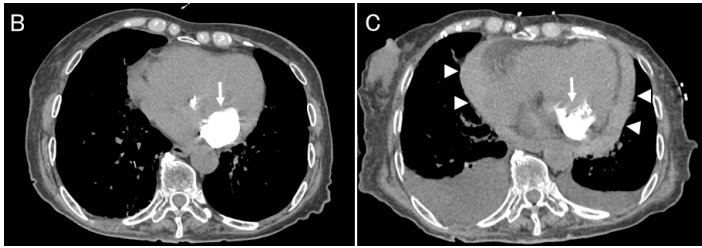


Figure A: Brain Magnetic Resonance Imaging (MRI) showed new infarct lesions in the right middle cerebral artery region.



Figures B and C: Chest Computed Tomography and CCMA reduced to a C-shaped structure.

CCMA is a rare variant of MAC that occurs due to caseous transformation of the inner material. Typical echocardiographic features of CCMA include large, spherical echo-dense mass with smooth borders and a central area of echolucency, resembling liquefaction [1], while on CT, it can be a sharply marginated semilunar or round mass with a hypodense or hyperdense center and a calcified peripheral rim [2]. Although MAC and CCMA are usually considered benign, cerebral infarction secondary to CCMA has been reported [3], as has sudden cardiac death due to MAC-induced fistulations leading to hemopericardium [4]. CCMA rupture should be considered in the elderly presenting with MAC, cerebral infarction, and hemopericardium.

Disclosure

Approval of the research protocol: N/A.

Informed consent

Written consent for the publication of this case report was obtained from the family.

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