Extensive myocardial calcinosis due to *Mycobacterium tuberculosis*

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An 81-year-old woman was referred to our hospital because of dyspnoea. Except for hypertension, her past medical history was uneventful. No history of tuberculosis was documented. However, her husband had developed tuberculosis when he was in his 20s. Moist rales were audible predominantly in the bilateral lower lung fields.

Sputum examination did not reveal tuberculous bacilli. Electrocardiography demonstrated T-wave inversion in the II–III, aVF, and V4–V6 leads. A chest radiograph showed pleural effusion and pulmonary congestion in both lungs with cardiomegaly. An echocardiogram showed left ventricular hypertrophy with hyperechoic myocardial mass. The cardiac computed tomography image demonstrated massive left ventricular myocardial calcification that was distributed spirally from the cardiac apex to the base (Panel A; Supplementary material online, Movie S1). Fluoroscopic examination demonstrated that severe cardiac calcification (Panel B; see Supplementary material online, Movie S2).

Haemodynamic data obtained by catheterization demonstrated a restrictive pattern. Diastolic heart failure with preserved ejection fraction owing to extensive myocardial calcification was diagnosed on the basis of these data. Administration of inotropes and diuretics improved her congestion and heart failure symptoms. She was discharged 23 days after hospitalization.

Approximately 8 months after discharge, she was admitted to the emergency room owing to respiratory discomfort due to recurrence of heart failure. *Mycobacterium tuberculosis* was detected by sputum examination. Despite aggressive treatment, she died of deterioration of heart failure on the day after hospitalization.

Autopsy demonstrated systemic miliary tuberculosis involving multiple organs, and many calcified nodules were noted within the myocardium (Panel C). Pathological findings showed necrotizing granuloma with Langhans giant cells in the myocardium adjacent to calcified nodules (Panel D). Ziehl–Neelsen staining revealed acid-fast bacilli within the granuloma.

Panel: The figure shows massive intramyocardial calcification by computed tomography (Panel A) and by cineangiography (Panel B). Transverse section of left ventricle showed multiple calcified nodules (Panel C, white arrowhead). Microscopic section demonstrated necrotizing granuloma with giant cells, and acid-fast bacilli (black arrowhead) within the necrotic tissue in the myocardium (Panel D).

Supplementary material is available at European Heart Journal online.

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