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IMAGES IN CARDIOLOGY

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Cardiac sarcoidosis in a 60 year old woman

A 60 year old diabetic woman presented with atypical chest pains. Cardiac assessment did not reveal abnormalities, and the chest x ray was normal. Two years later she developed progressive heart failure, with mildly elevated troponin T values, and regional left ventricular (LV) wall motion abnormalities. Diagnostic coronary angiography showed mild wall irregularities. She was treated with an angiotensin converting enzyme inhibitor, a β blocker and diuretics, but her condition gradually deteriorated.

Assessment with ^{123}I fluorodeoxyglucose positron emission tomography (FDG PET) suggested active myocardial inflammation (panels A–C). Endomyocardial biopsies taken from

the right ventricle (RV) were diagnostic of cardiac sarcoidosis and immunosuppressive treatment was initiated (panel D). Follow up with gadolinium cardiac magnetic resonance (CMR) after six months demonstrated extensive myocardial scarring without signs of active inflammation (panels E–G).

This case illustrates the value of PET and CMR in managing patients with cardiac sarcoidosis.

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Panels A–C: ^{123}I fluorodeoxyglucose positron emission tomography (FDG PET) demonstrates increased uptake in the right ventricular (RV) free wall (1), apex (2), and lateral (3), inferior (4) and anterior left ventricular (LV) segments (5). (A: transverse view; B: coronal view; C: sagittal view). Panel D: Photomicrograph of the endomyocardial biopsy shows the presence of a non-caseous epithelioid granuloma with a multinucleated giant cell (arrow) (haematoxylin & eosin, 40 $\times$). Panels E–G: Cardiac magnetic resonance (CMR) demonstrates cardiomegaly, bilateral pleural effusions (1), and myocardial scar involving the epicardial RV free wall (2), interventricular septum (3), and subendocardium of the lateral (4), anterior (5) and inferior LV segments (6). The RV and LV ejection fractions were respectively 15% and 22%, with 28% of the LV mass consisting of scar tissue. (E and F: four chamber views; G: two chamber view).