Clinical vignette

Cardiac sarcoidosis detected with magnetic resonance imaging

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A 47-year-old woman was admitted for multiple episodes of symptomatic sustained polymorphic ventricular tachycardia. Six weeks earlier, she had been diagnosed of active sarcoidosis (lymph node biopsy demonstrating non-caseating granulomas). A coronary angiogram revealed normal arteries. A cardiac magnetic resonance examination demonstrated severe left ventricular dysfunction (ejection fraction of 27%). Delayed hyperenhancement imaging showed multiple foci of contrast accumulation corresponding to fibrotic and/or inflammatory tissue in the left ventricular wall, predominantly in the intramyocardial and subepicardial layers (Panel A, four-chamber view; Panel B, two chamber view; Panel C, basal short-axis view). Transmural scarring and thinning of the basal septum, a common finding in cardiac sarcoidosis, was also noted (Panels A and C). An endomyocardial biopsy revealed areas of focal fibrosis (asterisk in Panel D) that could explain the magnetic resonance imaging findings, multiple histiocytes (also noted in Panel D), and no evidence of myocarditis or myocyte necrosis. An automatic internal defibrillator was implanted.

Although clinical evidence of myocardial involvement, a leading cause of death in subjects with sarcoidosis, occurs in only 5% of patients, pathological evidence is found in up to 50% of the subjects. Magnetic resonance imaging can non-invasively depict this abnormality.