


Effusive constrictive pericarditis: functional and anatomical magnetic resonance findings

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A 32-year-old man presented with progressive dyspnoea several months after a second episode of acute pericarditis. Heart rate was 70 b.p.m., and blood pressure was 120/80 mmHg. He had marked jugular venous distension, hepatomegaly, ascites, and bilateral moderate pleural effusion on chest X-ray. Laboratory tests showed elevated C-reactive protein level (43 mg/L). Electrocardiogram demonstrated widespread T-wave inversion. Echocardiogram showed subnormal left ventricular ejection fraction, mild global hypokinesia, and restricted filling of both ventricles with increased pulmonary artery pressure. Delayed-enhancement magnetic resonance (MR) imaging depicted moderate circumferential pericardial effusion associated with intensely enhanced thickened pericardial layers (Panels A and B), suggesting active inflammation. Analysis of respiratory-related septal excursion on real-time cine MR demonstrated sepsal inversion during inspiration (Panels C and D), likely caused by decreased compliance of inflamed pericardial layers. Effusive constrictive pericarditis was suspected and cardiac surgery proposed. Pericardectomy of a diffusely thickened stiff pericardium was performed. Pericardial histology revealed that fibrinous pericarditis was associated with lymphoplasmacytic inflammation without identification of any infectious agent.

Panels A and B. Short-axis and horizontal long-axis delayed-enhancement magnetic resonance imaging demonstrating circumferential pericardial effusion associated with intensely enhanced thickened pericardial layers.

Panels C and D. Short-axis real-time cine magnetic resonance analysing respiratory-related septal excursion demonstrated septal inversion during inspiration. Normal interventricular septal curve before inspiration. Paradoxical septal motion during inspiration.