

Meeting abstract

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206 characteristics of surgically confirmed constrictive pericarditis by magnetic resonance imaging

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Introduction

Constrictive pericarditis is a challenging condition to diagnose. We evaluated the imaging characteristics of surgically proven constrictive pericarditis by cardiac magnetic resonance imaging (MRI) in a large cohort of patients undergoing evaluation for possible pericardial constriction.

Purpose

To examine imaging characteristics that will aid in the diagnosis of constrictive pericarditis and may help identify the underlying cause of the pericarditis.

Methods

We assessed 150 consecutive patients referred for evaluation of suspected constrictive pericarditis by cardiac MRI between January 2004 and April, 2006. All patients underwent MRI scanning on a 1.5 T magnet (Siemens Sonata) with turbo spin echo, bSSFP, and cine tagged sequences.

Results

57 (36%) of 160 patients (mean age 59 ± 14 years) had evidence of constrictive pericarditis by MRI. 9 patients with MRI findings of constriction were managed medically due to severe co-morbidities or mild clinical symptoms; 48 patients had surgically confirmed constrictive pericarditis by surgery and pathology. MRI diagnosed constrictive pericarditis in 47 of the 48 (98%) surgical patients, and was equivocal in the remaining 1 patient who had a large pericardial effusion. In the surgical

patients, the etiology of constriction was: idiopathic 30 (63%); post surgical 12 (25%); radiation therapy 3; tuberculosis 2; and SLE 1. On MRI, pericardial tethering was present in 52/57 (91%), pericardial thickening (> 4 mm) in 44/57 (77%), a diastolic septal bounce in 50/57 (88%), and pericardial calcification in 19/57 (33%). All patients with constrictive pericarditis had at least 3 of the following 5 characteristics: pericardial tethering; pericardial thickening/calcification; tubular/conical deformity of a ventricle; abnormal diastolic septal motion; and diastolic restraint of the ventricles.

Conclusion

Patients with surgically proven constrictive pericarditis have at least 3 of 5 characteristic findings described above on MRI.