

Meeting abstract

Open Access

## 206 characteristics of surgically confirmed constrictive pericarditis by magnetic resonance imaging

Sarah K Hussain\*, Vikram Kurra, Ronan Curtin, Allan Klein and Srikanth Sola

Address: The Cleveland Clinic, Cleveland, OH, USA

\* Corresponding author

from 11<sup>th</sup> Annual SCMR Scientific Sessions  
Los Angeles, CA, USA. 1–3 February 2008

Published: 22 October 2008

*Journal of Cardiovascular Magnetic Resonance* 2008, **10**(Suppl 1):A67 doi:10.1186/1532-429X-10-S1-A67

This abstract is available from: <http://jcmr-online.com/content/10/S1/A67>

© 2008 Hussain et al; licensee BioMed Central Ltd.

### 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  $59 \pm 14$  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.