

Meeting abstract

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## 203 I Cardiovascular magnetic resonance assessment of myocarditis and comparison to histology and real time polymerase chain reaction: the emerging role of chlamydia

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### Introduction

Myocarditis usually presents with spontaneous recovery. However, it can occasionally lead to sudden death in 10% or may progress to dilated cardiomyopathy in up to 9% of cases. The diagnosis is difficult to establish clinically.

### Purpose

We applied cardiovascular magnetic resonance (CMR) to detect myocardial inflammation and we compared the CMR results with myocardial histology and polymerase chain reaction (PCR) findings.

### Methods

Seventeen patients were prospectively studied, in whom suspicion of myocarditis had been raised. Endomyocardial biopsy was performed in all of them and submitted to histopathologic analysis. Real time PCR evaluation of myocardial specimens was also performed. CMR evaluation of myocardial inflammation was performed using T2-weighted (T2-W), T1-weighted (T1-W) before and after contrast media injection, and late enhanced images.

### Results

All patients had abnormal CMR and PCR findings. Histology showed presence of myocarditis in 8/17 patients

(47%) and PCR of myocardial specimens revealed *Chlamydia trachomatis* in 15/17 (88%). Coxsackie B3, B6, Parvo B19 and Herpes 1–2 were identified in 6, 5 and 4/17 patients respectively. In 10/17 patients (58.8%) a coexistence of *Chlamydia* with Coxsackie B3, B6, Parvo B19 and Herpes 1–2 was revealed. Presence of oedema was documented in 6/17 patients (35.2%) using T2W. The relative myocardial enhancement from T1-W was increased at  $10 \pm 3$  (normal values  $2.3 \pm 0.3$ ) in 17/17 cases. Areas of late enhancement (LE), with subepicardial distribution, were located in basal posterolateral or inferior wall in 11/17 (64.7%) cases. Left ventricular ejection fraction was reduced only in 20% of cases.

### Conclusion

*Chlamydia* induced myocardial inflammation is a common finding in patients with clinical diagnosis of myocarditis and often coexists with different viruses. Abnormal CMR findings were in agreement with all myocardial PCR specimens and 47% of histology findings. CMR evaluation may facilitate the selection of patients for myocardial biopsy.