

DIAGNOSTIC PERFORMANCE OF CARDIAC MAGNET RESONANCE [CMR] COMPARED TO ENDOMYOCARDIAL BIOPSY IN PATIENTS WITH MYOCARDITIS IMAGING IN A TERTIARY CENTER

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Background: Several studies have reported an encouraging diagnostic performance of CMR in myocarditis (sensitivity ~80%, specificity ~70%). However, such CMR data were derived in centers with extensive experience in myocarditis diagnosis. The goal of this study was to assess the diagnostic performance of cardiac magnetic resonance (CMR) compared with endomyocardial biopsy in patients with suspected myocarditis in a high volume MRI center (>14.000 MRI/annually).

Methods: 308 consecutive patients with acute myocarditis ([AMC] defined by symptoms ≤28 days; n=163) and chronic ([CMC] defined by symptoms >28 days; n=145) were included. Patients underwent both cardiac catheterization with ventricular endomyocardial biopsy and CMR.

Results: Mean age at diagnosis was 56.6±13.8 years, 80.9% were male. Mean duration of symptoms was 4.6±4.7 days in the AMC group and 91.2±174.3 days in the CMC group (p<0.001). A history of recent infection was available in 23.4% and 11.4%, respectively (p=0.03). For the overall cohort of patients with either AMC or CMC, the diagnostic sensitivity and specificity of CMR were 43% and 65%, respectively. The diagnostic performance was not significantly different between AMC (sensitivity, 45.1%; specificity, 63.5%; positive predictive value [PPV] 72.5%; and negative predictive value [NPV] 35.1%) and CMC (sensitivity, 41.7%; specificity, 67.6%; PPV 79%; and NPV 28.4%).

| MRI-scans (2008) | |
|--|--------|
| Wirbelsäule | 5.000 |
| Schädel (inkl. NNH, Halsweichteile, Diffusions- und Perfusionsmessungen) | 4.000 |
| Gelenke | 1.500 |
| Abdomen + Becken | 2.000 |
| Herz | 300 |
| Gefäßuntersuchungen | 1.300 |
| Summe | 14.100 |

Table 1: MRI-scans at the study site in 2008 sorted by body region

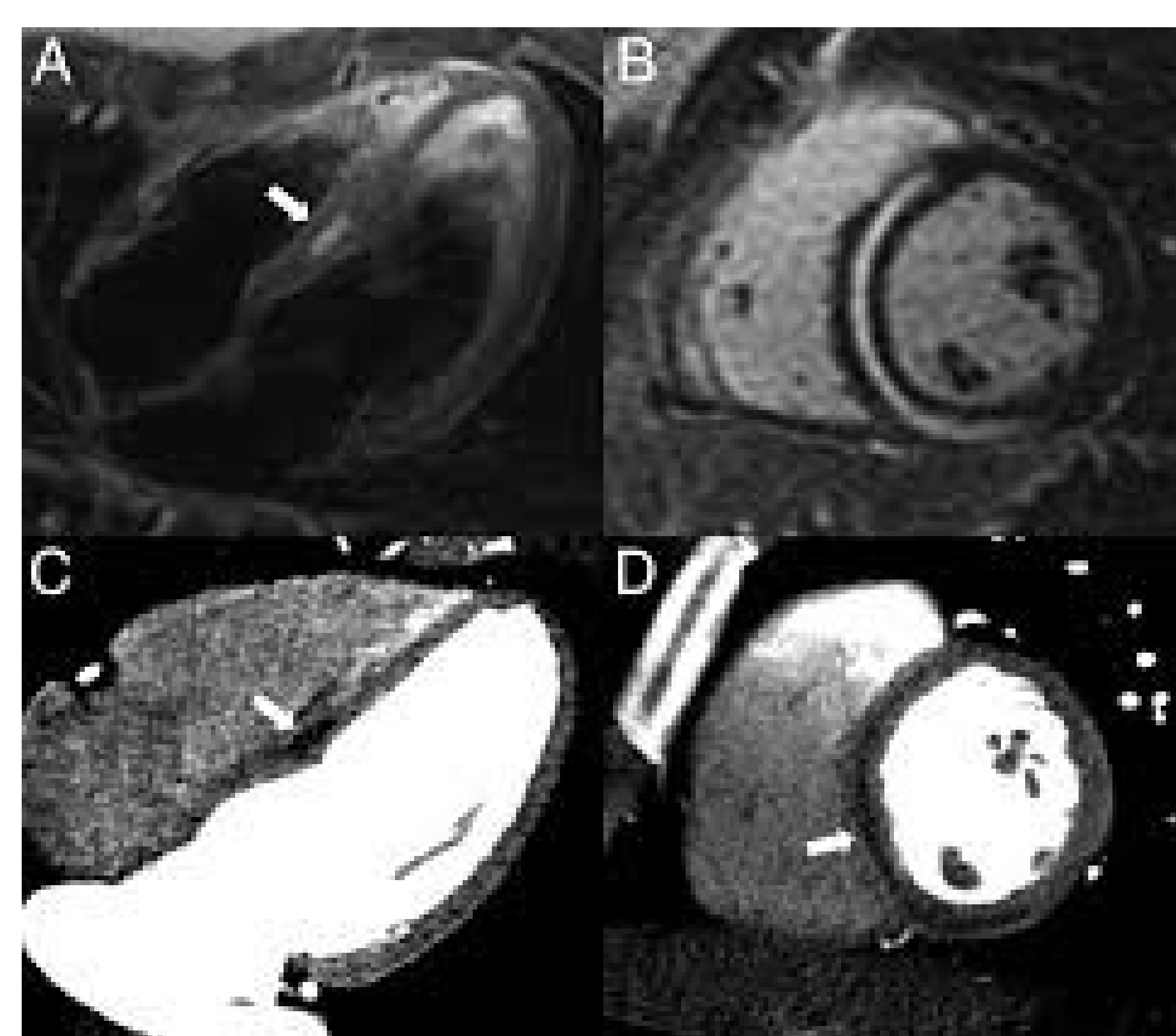


Figure 1: Examples of MRI-scans in patients with myocarditis

Conclusion: The diagnostic performance of CMR in myocarditis obtained in MRI centers of excellence can not be extrapolated to less experienced centers