

Poster presentation

## Clinical benefit of cardiac magnetic resonance imaging in relation to the indication

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### Introduction

Cardiac magnetic resonance imaging (MRI) is a powerful imaging technique for a wide range of cardiac problems. Major disadvantages are high costs and use of resources.

Purpose of the study was to examine the question to what extent cardiac MRI findings do have relevant consequences for the patient, in relation to the indication.

### Methods

590 consecutive cardiac MRIs performed before, during or after an in-hospital stay in a cardiology department were scrutinized for indication, findings and the therapeutic consequences for the patient.

### Results

Median age was  $60 \pm 15$  years, 69% of patients were male. The following main indications occurred: ischemia (39%), myocardial viability alone (7%), accurate left ventricular function (12%), inflammation/myocarditis (9%), characterisation of a cardiomyopathy (14%), valvular disease (6%), pulmonary vein anatomy 11%, cardiac mass (2%), endocarditis, and search for thrombi (1%).

54% of the patients had abnormal findings. In 90% of the studies there were new findings or a confirmation of a suspected diagnosis could be done. Direct therapeutic consequences in terms of cardiac interventions or surgery resulted in 39% of all patients. Depending on the indication the frequency of a following therapy was between

95% (viability) and 20% (myocarditis and cardiomyopathy). In 2% of all studies an abnormal MRI was followed by an invasive diagnostic procedure without any therapeutic consequence due to a false positive test result.

In 12% previously unknown incidental findings were present: Ventricular thrombi (1.5%), myocardial scars (2.5%), pericardial effusion (1.9%), atrial septal defect (0.2%), aortic aneurysm (1.0%), liver cysts (0.8%), pulmonary infiltrates (3.1%), pleural effusion (0.7%), lymphoma (0.3%), liver cirrhosis (0.2%).

### Conclusion

In 90% of 590 consecutive cardiac MRI scans in a single hospital setting a new diagnosis or new findings could be established. Only in a very small group, MRI caused further invasive diagnostics without therapy.