

Poster presentation

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Comprehensive cardiac magnetic resonance approach to assess myocardial involvements in asymptomatic patients with rheumatic diseases: comparison of MRI findings between rheumatic arthritis and systemic sclerosis

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Introduction

Rheumatic Disease is a multi-organ inflammatory disorder associated with high cardiovascular morbidity and mortality.

Purpose

We assessed myocardial involvements by using a comprehensive cardiac magnetic resonance imaging (cMRI) with stress/rest perfusion and delayed enhancement in asymptomatic patients with rheumatic arthritis (RA) and systemic sclerosis (SSc).

Methods

18 RA and nine SSc patients with no history and/or clinical findings of cardiac disorders underwent cMRI on a 1.5 T scanner. Adenosine triphosphate was used for stress perfusion to assess perfusion defect (PD), and delayed enhancement (DE) imaging was obtained. We assessed the efficacy of cMRI and compared the prevalence of myocardial involvements in the patients with RA to SSc.

Results

1) RA: Stress PDs were seen in two out of 18 RA patients (11%), one of whom had circumferential subendocardial PD and one had a non-segmental subendocardial PD. Seven patients were found to have DE (39%). DE was

observed in six without PD and one patient with PD demonstrated DE. Five had a DE in the middle or subepicardial layer. The remaining two had a subendocardial DE in segment.2) SSc: Stress PDs were seen in five out of nine SSc patients (56%), four of whom had non-segmental subendocardial perfusion defects and one had a segmental subendocardial perfusion defect. Three patients were found to have DE (33%). DE was not observed in any patient without perfusion defect and among the five patients with perfusion defects, three (60%) demonstrated delayed enhancement. Two of the three had non-segmental DE in the middle layer and one had segmental subendocardial DE.

Conclusion

Subclinical myocardial involvements were frequent in asymptomatic patients with RA and SSc. Comprehensive cMRI is considered to be a feasible diagnostic method for assessing myocardial involvement in asymptomatic patients with RD.