

Oral presentation

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Long-term prognostic significance of late gadolinium enhancement in non-ischemic dilated cardiomyopathy: further evidence from 184 patients

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from 13th Annual SCMR Scientific Sessions
Phoenix, AZ, USA, 21-24 January 2010

Published: 21 January 2010

Journal of Cardiovascular Magnetic Resonance 2010, 12(Suppl 1):O8 doi:10.1186/1532-429X-12-S1-O8

This abstract is available from: <http://jcmr-online.com/content/12/S1/O8>

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Introduction

Non-ischemic dilated cardiomyopathy (DCM) is a major cause for cardiovascular morbidity and premature mortality. Due to the variable clinical course, risk stratification is of paramount importance in these patients to identify those most likely to benefit from aggressive treatment strategies. There is emerging evidence for the prognostic significance of late gadolinium enhancement (LGE) in patients with DCM.

Objective

The goal of this study was to further investigate the long-term prognostic significance of LGE in a large cohort of patients with DCM presenting to a tertiary referral center.

Methods

Contrast-enhanced cardiovascular magnetic resonance (CE-CMR) was performed in 184 consecutive patients with DCM on a 1.5 T clinical scanner. Significant coronary artery disease had been ruled out in all patients. LV volumes and mass were derived from SSFP cine images. Presence of LGE was determined by two independent observers. Patients were followed for the primary endpoint of cardiac death and a composite endpoint of cardiac death, hospitalization for decompensated heart failure or appropriate ICD firing for a mean of 685 ± 30 days.

Results

LGE was detected in 72/184 patients (39%). Patients with LGE showed a higher NYHA classification (2.2 ± 0.09 vs. 1.9 ± 0.07 , $p = 0.02$) and were more often on oral diuretics (42/72 pts. vs. 45/112 pts., $p = 0.02$). Presence of LGE was associated with a lower EF ($31.6 \pm 1.7\%$ vs. $40.4 \pm 1.2\%$, $p < 0.001$), higher EDV (288.7 ± 12.2 ml vs. 233.6 ml, $p <$

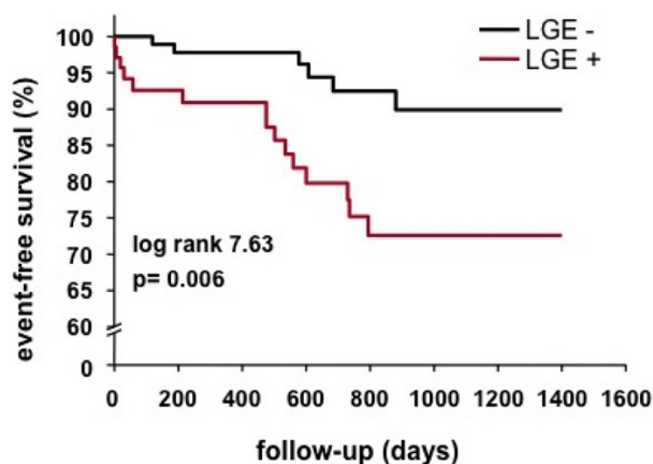


Figure 1
Event-free survival according to presence of LGE.

Table 1: Predictors of the composite endpoint by Cox regression

| | HR (95% CI) | P |
|---------------------------|------------------|---------|
| Univariate | | |
| EF (%) | 0.94 (0.91-0.98) | < 0.001 |
| LGE (y/n) | 3.5 (1.4-9) | 0.01 |
| Age (yrs) | 1.06 (1.02-1.09) | 0.001 |
| Male gender | 1.29 (0.43-3.83) | 0.65 |
| NYHA class | 1.84 (0.98-3.46) | 0.06 |
| Multivariate model | | |
| Age (yrs) | 1.04 (1.02-1.09) | 0.001 |
| EF (%) | 0.94 (0.91-0.97) | 0.001 |

0.001) and a more pronounced increase of LV mass/BSA (81.9 ± 2.9 g/m² vs. 70 ± 2.2 g/m², $p < 0.001$). There was a trend towards a higher incidence of the primary endpoint in patients with LGE (4/72 vs. 1/112, $p = 0.06$). The rate of the composite endpoint was significantly associated with the presence of LGE (15/72 vs. 6/112, $p = 0.002$, Figure 1). When entered into multivariate Cox regression analysis, LGE did not retain an independent predictive value (Table 1).

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