

ORAL PRESENTATION

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# Prognostic utility of late gadolinium enhancement cardiac magnetic resonance imaging in coronary artery disease: a meta-analysis

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## Background

Late gadolinium enhancement (LGE) cardiac MR can identify injured or scarred myocardium. However its prognostic implication remains unclear.

## Objective

We sought to quantify the risk of major adverse cardiovascular events (MACE) among patients with LGE and CAD.

## Methods

Two reviewers conducted a systematic search of electronic databases (MEDLINE and EMBASE) and hand searched bibliographies. Reviewers extracted data in duplicate, evaluated the quality of the studies based on a 4 point scale, and calculated pooled estimates. Out of 579 unique records screened, 115 full-text articles were assessed for eligibility. We then performed a meta-analysis on 18 eligible studies which reported on the occurrence of MACE in patients with LGE detected after a myocardial infarction.

## Results

A total of 4,438 patients were included in the analysis. The overall hazard ratio (HR) for MACE was 2.65

(95% confidence intervals, CI, 1.98-3.56) for the presence of any LGE, with large amounts of heterogeneity between studies ( $I^2$ , 83.5%). Furthermore, there was a continuous relationship between risk and the amount of LGE detected. For every 10% of the left ventricular mass with LGE, the risk of MACE increased by 56% (HR 1.56/10% LGE, 95% CI 1.39-1.75;  $I^2$ , 63.6%). Pre-specified meta-regression analyses revealed that the HR for MACE decreased with declining ejection fraction ( $p=0.02$ ) when LGE was continuous, and was inversely related to age ( $p<0.001$ ) when LGE was binary.

## Limitations

Studies were heterogeneous with respect to patient characteristics and the definition of MACE, which may limit interpretability and generalizability.

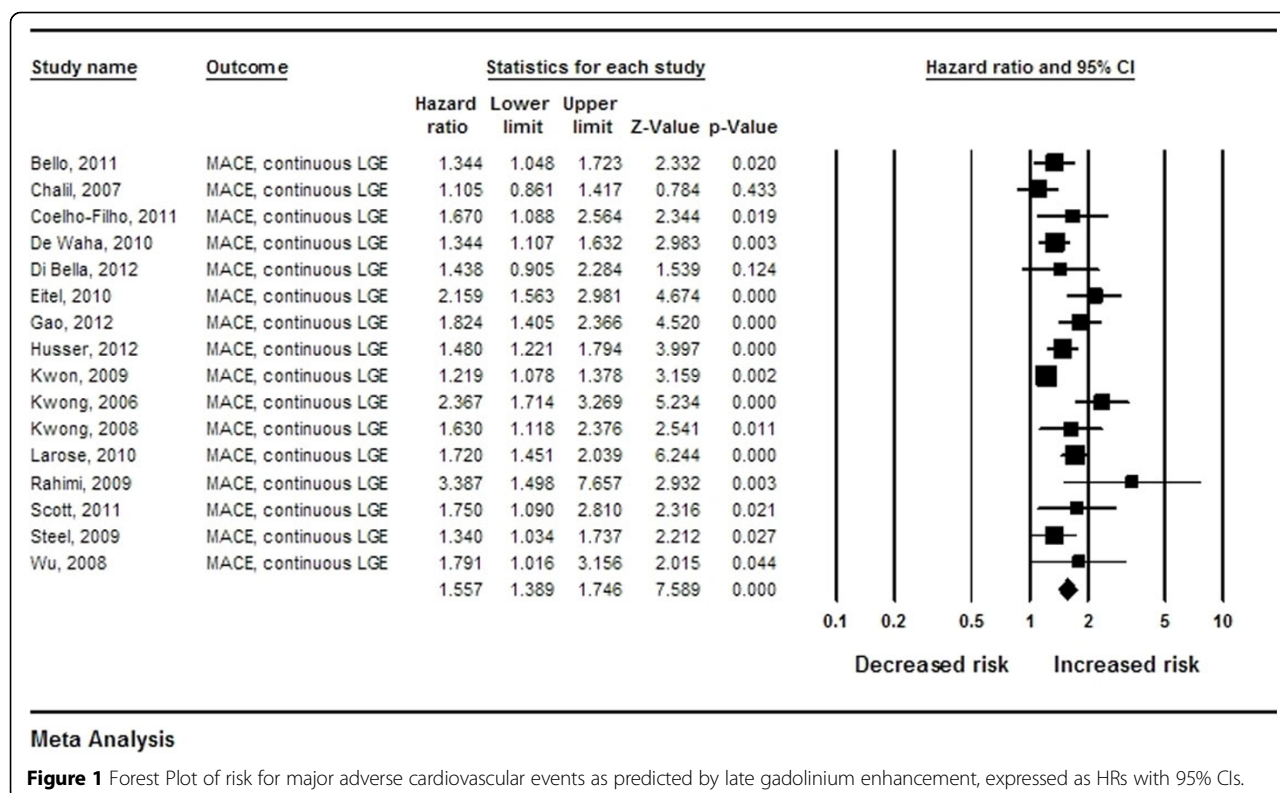
## Conclusions

The presence and extent of LGE are independent predictors of MACE in patients with prior myocardial infarction.

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