

## Publication

# Cardioprotective medication adherence in Western Australians in the first year after myocardial infarction: restricted cubic spline analysis of adherence-outcome relationships

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Adherence to cardioprotective medications following myocardial infarction (MI) is commonly assessed using a binary threshold of 80%. We investigated the relationship between medication adherence as a continuous measure and outcomes in MI survivors using restricted cubic splines (RCS). We identified all patients aged  $\geq 65$  years hospitalised for MI from 2003-2008 who survived one-year post-discharge ( $n = 5938$ ). Adherence to statins, beta-blockers, renin angiotensin system inhibitors (RASI) and clopidogrel was calculated using proportion of days covered to one-year post-discharge (landmark date). Outcomes were 1-year all-cause death and major adverse cardiac events (MACE) after the landmark date. Adherence-outcome associations were estimated from RCS Cox regression models. RCS analyses indicated decreasing risk for both outcomes above 60% adherence for statins, RASI and clopidogrel, with each 10% increase in adherence associated with a 13.9%, 12.1% and 18.0% decrease respectively in adjusted risk of all-cause death (all  $p < 0.02$ ). Similar results were observed for MACE (all  $p < 0.03$ ). Beta-blockers had no effect on outcomes at any level of adherence. In MI survivors, increasing adherence to statins, RASI, and clopidogrel, but not beta blockers, is associated with a decreasing risk of death/MACE with no adherence threshold beyond 60%. Medication adherence should be considered as a continuous measure in outcomes analyses.

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