Bottom Line:
Beta-blocker therapy was not associated with a reduced risk of adverse cardiovascular events in adults with a prior MI, known coronary artery disease (CAD) without prior MI, or three or more known risk factors for CAD. (LOE = 2b)

Reference:

Study Design: Cohort (prospective) Funding: Industry + government Setting: Outpatient (any) Allocation: Unknown

Synopsis:
Beta-blocker therapy is recommended for most patients with CAD, especially after an MI. However, the efficacy of long-term therapy with beta-blockers for these patients is uncertain.

These investigators analysed data from a large international, prospective, observational registry enrolling consecutive eligible patients 45 years or older with known CAD or with at least three CAD risk factors between December 2003 and June 2004.

Patients using beta-blocker therapy were divided into three groups: history of MI, known CAD without prior MI, and CAD risk factors only. Group assignment occurred by review of medical records; the authors do not specifically state whether reviewers remained masked to the study hypothesis.

The primary outcome was a composite of cardiovascular death, nonfatal MI or nonfatal stroke. Additional outcomes included hospitalisation, revascularisation procedures, and cardiovascular disease-related and all-cause mortality.

Outcomes are reported using a ‘propensity scores’ analysis consisting of paired comparisons between patients in the group who were using beta-blockers vs those who did not, with the dependent variable of beta-blocker use and 27 baseline characteristics as co-variates.

A sensitivity analysis was also conducted after excluding patients with known congestive heart failure.

From the registry, 44 708 patients met inclusion criteria including 14 043 with history of MI, 12 012 with documented CAD without prior MI, and 18 653 with CAD risk factors only.

Complete follow-up occurred for 96 per cent of patients at two years and 74 per cent at four years, with a median follow-up of 44 months. Of the total patients, 21 860 were paired for the propensity score analysis.

In the history of MI cohort, event rates between the beta-blocker use group and the nonuse group were not significantly different for any assessed outcomes.

Likewise in the CAD without prior MI cohort, there were no significant differences between the use and nonuse groups for the primary outcome. However, the event rate was actually significantly higher in the beta-blocker use group for revascularisation procedures and hospitalisations.

In the risk factors alone cohort, event rates were significantly higher in the beta-blocker use than in the nonuse group for the primary outcome and revascularisation procedures and hospitalisations.

In the subgroup of patients with a recent history of MI (within the past year), beta-blocker use was significantly associated with a lower rate of hospitalisation and revascularisation procedures.

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