

Associations of Drug Treatments with 12-Year Mortality among Older Patients with Cardiovascular Diseases

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Background:

Individuals over 75-years are a growing segment among cardiovascular patients, but there are scarce long-term data how common drug treatments affect their prognosis.

Methods:

These are tertiary analyses of the Drugs and Evidence based Medicine in the Elderly (DEBATE) Study, which sought to investigate possibilities for pragmatic cardiovascular prevention in Helsinki, Finland (Am Heart J 2006; 152:585-92). At baseline in 2000, all participants (n=400) were recruited from the community, they lived at home and had a history of cardiovascular disease. Medical history, comorbidities, and drug treatments were ascertained from medical records. Thorough clinical examinations including MMSE for cognition were performed at baseline. Total mortality up to July 31, 2012 was retrieved from national registers. Associations between baseline drug treatments and follow-up mortality were analyzed using Cox proportional hazards models to obtain hazard ratios (HR) with 95% confidence intervals (CI).

Results:

Mean age at baseline was 80 years (range 75 to 90), 65% were women. Most patients (84%) had a history of coronary artery disease. Of all patients, 68 % were using aspirin, 54% beta-blockers, 15% ACE-inhibitors, 31% diuretics, 27% calcium-channel blockers, 11% anti-diabetic drugs, and 21% statins at baseline. In the Cox analyses adjusted for age, sex, smoking, comorbidity, and MMSE (all drugs treatments simultaneously in the model), 12-year total mortality was 34% lower among statin users as compared to nonusers (HR 0.66, 95% CI 0.47-0.92), but increased by 32% (HR 1.32, 95% CI 1.02-1.71) and 39% (HR 1.39, 95% CI 1.05-1.82) among beta-blocker and diuretic users, respectively. Mortality associations were non-significant with other drugs including aspirin.

Conclusion:

Statin use indicated better long-term prognosis, whereas both beta-blocker and diuretic use were associated with worse prognosis among older cardiovascular patients. Despite adjustments, reverse causality cannot be excluded.