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Frailty and Initiation of Cardio-Protective Medicines Following Incident Acute Coronary Syndrome in Older People: A Linked Data Study

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Introduction

Beta-blockers, renin-angiotensin system inhibitors and statins are evidence-based pharmacotherapies for preventing recurrent acute coronary syndrome (ACS), however their use in older people may depend on clinical factors such as comorbidity and frailty. Deriving comorbidity information from linked administrative data is well established. The recent development of the Hospital Frailty Risk Score (HFRS) now allows ascertainment of frailty from linked administrative data.

Objectives and Approach

We determined the ability of the HFRS to discriminate between groups of older patients initiated on these three cardio-protective medicines following hospitalisation for an incident ACS. We used a 15-year look back to identify incident ACS cases between 2005 and 2008 from Western Australian hospital data and linked them to national pharmaceutical dispensing records. The study was limited to patients aged ≥ 65 years who had not received these medicines in the last two years and were discharged alive from their index ACS admission. Separate competing risk regression models assessed the association between HFRS and initiation of each medicine, controlling for comorbidities and other variables available from the linked datasets.

Results

Overall, increasing levels of HFRS were associated with lower subdistribution hazards of initiation of each medicine examined, however these varied by age group and sex. For example, the subdistribution hazard ratios (SHR) for beta-blocker initiation among men in the oldest age group (≥ 85 years) were 0.65 (95% CI: 0.44-0.95) and 0.51 (95% CI: 0.29-0.90) in the intermediate and high HFRS groups respectively compared to the low frailty group. The corresponding SHR for women were 1.01 (95% CI: 0.76-1.35) and 0.89 (95% CI: 0.63-1.27), respectively.

Conclusion / Implications

The HFRS applied to linked administrative data discriminates between groups of older people who received cardio-protective medicines following an incident ACS. There is potential for it to be used in other chronic disease conditions.