Real-world evidence on short- and long-term outcomes for acute coronary syndrome patients with a prior history of atrial fibrillation

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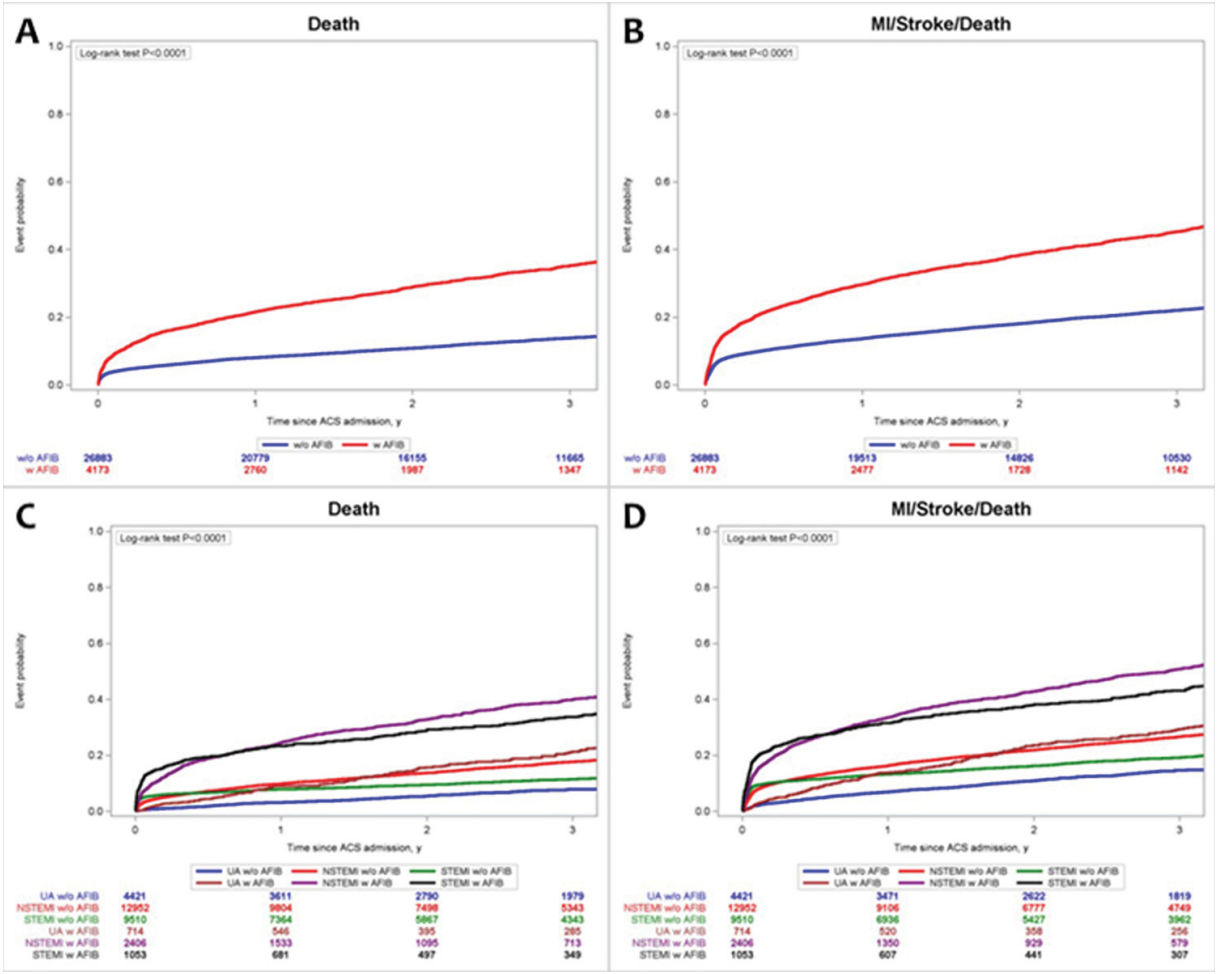
Background: Acute coronary syndromes (ACS) are often complicated by new-onset atrial fibrillation (AF), which is associated with higher short-term mortality. It is unknown whether a prior history of AF affects outcomes beyond in-hospital mortality in a real-world setting.

Purpose: To assess (i) the prevalence of prior AF in patients with ACS, including unstable angina (UA), non-ST-segment elevation myocardial infarction (NSTEMI) and ST-segment elevation myocardial infarction (STEMI); (ii) clinical characteristics of ACS patients with and without AF; and (iii) in-hospital mortality and long-term outcomes in the presence of prior AF.

Methods: We used linked administrative health databases to identify patients hospitalized with a primary diagnosis of ACS and prior history of non-valvular AF (ICD-9 code 427.3 and ICD-10 code 148), which was defined as 1 hospitalization or 1 emergency department visit or 2 outpatient visits at least 30 days apart in 1 year in any position, between April 2002 and March 2016 in Alberta, Canada. Outcomes included in-hospital mortality, long-term mortality and a composite of all-cause mortality, hospitalisation for myocardial infarction (MI) or stroke over 3 years. Kaplan-Meier curves were constructed for mortality and the composite outcome according to presence of prior AF and ACS type.

Results: Of 31,056 presenting with an ACS, 4,173 (13.4%) had a prior history of AF. Compared to patients without prior AF, patients with AF were older (75.7 versus 64.7 years), female (35.5% versus 29.9%), with a higher comorbidity burden (Charlson Comorbidity Index 1.7 versus 1.1). Patient with AF more often presented with NSTEMI (57.7% versus 48.2%) and UA (17.1% versus 16.4%) compared to STEMI (25.2% versus 35.4%). In-hospital mortality was higher for ACS patients in the presence of prior AF (8.1% versus 3.3%; p<0.0001). Mortality and the composite endpoint were also significantly higher in patients with prior AF compared to those without AF (Panel A and B) over the 3-year period. A worse prognosis was observed for STEMI and NSTEMI patients with prior AF compared to any other group (panel C and D).

Conclusion: In this large, population-based study, we found that a history of AF is common in patients presenting with an ACS. In the presence of AF, short- and long-term prognosis is poor particularly for STEMI and NSTEMI patients. Aggressive modification of shared risk factors and use of evidence-based therapies to improve outcomes is needed in this high-risk population.



Outcomes by presence of AF and ACS type