New onset atrial fibrillation in acute coronary syndrome: early vs late onset

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On behalf: Portuguese Registry on Acute Coronary Syndromes

Topic(s):
Coronary Artery Disease and Comorbidities

Citation:
Background:
The prognostic impact of the timing where new-onset Atrial Fibrillation (AF) occurs in Acute Coronary Syndrome (ACS) patients isn't well studied.

Objective:
Evaluate the predictors and prognostic impact of early-onset AF (EAF) and late-onset AF (LAF) in ACS patients.

Methods:
We analysed 17016 patients with ACS enrolled in a national multicenter registry from October 2010 to January 2019. Patients with history of valvular disease, valve replacement, AF present at hospital admission or those who died in the first 48 hours were excluded. EAF was defined as AF in the first 48 hours of hospitalization and LAF after 48 hours. The primary endpoint was a composite of death and readmission from cardiovascular causes at 1 year.

Results:
The mean age was 65±13 years; 74% were males and 42% had STEMI. 324 (1.9%) had EAF and 344 (2.0%) had LAF.

The predictors of EAF were age ≥75 years (OR 2.04, 95%CI 1.53-2.70, p<.001); history of heart failure (OR 1.82, 95%CI 1.09-3.02, p=.022), STEMI diagnosis (OR 2.74, 95%CI 2.06-3.61, p<.001), admission Killip class (KK)=2 (OR 2.70, 95%CI 1.98-3.69, p<.001).

The predictors of LAF were age ≥75 years (OR 3.15, 95%CI 2.36-4.19, p<.001), history of stable angina (OR 1.42, 95%CI 1.06-1.90, p=.018), cerebrovascular disease (OR 1.68, 95%CI 1.14-2.46, p=.008), COPD (OR 2.33, 95%CI 1.58-3.44, p<.001), STEMI diagnosis (OR 2.31, 95%CI 1.77-3.03, p<.001), admission KK ≥2 (OR 2.06, 95%CI 1.54-2.76, p<.001) and stress hyperglycemia (OR 1.54, 95%CI 1.15-2.05, p=.003)

In STEMI patients only those with LAF had higher symptoms time (245(IQR 165-400) minutes vs 284(IQR 200-425) min; p=.02).

During hospitalization, LAF patients had a worse prognosis with a higher rate of heart failure, re-infarction, stroke, major bleeding and death (Table 1).

In the follow-up, in multivarite analysis, only LAF was a predictor of the primary endpoint (EAF: HR 0.79, 95%CI 0.50-1.25, p=.314; LAF: HR 1.45, 95%CI 1.05-2.00, p<.025).

Conclusion:
Patients with EAF and LAF have different characteristics and outcomes with LAF patients having a worse inhospital and long term prognosis.
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Conclusion: Patients with EAF and LAF have different characteristics and outcomes with LAF patients having a worse in-hospital and long-term prognosis.

<table>
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<th>Event</th>
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<th>LAF</th>
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<td>Death</td>
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<td>0.9</td>
<td>3.8</td>
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</tr>
<tr>
<td>Major bleeding</td>
<td>1.3</td>
<td>4.3</td>
<td>4.1</td>
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