Impact of Atrial Fibrillation type in Acute Coronary Syndrome and the antithrombotic strategy

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INTRODUCTION: Atrial fibrillation (AF) is an adverse prognostic factor during acute coronary syndrome (ACS). Current evidence recommends dual antithrombotic therapy (DAT), 1 antiplatelet drug and 1 anticoagulant drug, as the default strategy after nonST elevation ACS.

AIM: To identify the clinical differences and prognosis of AF type-new onset (nAF) or pre-existing (pFA)- during ACS, to evaluate antithrombotic strategy at hospital discharge (HD) and its impact on haemorrhagic and ischemic events.

METHODS: We performed a retrospective observational cohort study including 3241 patients (pts) with ACS (mean age 64 years, 77.5% male) admitted to a single center over a 6-year period, with 12-months follow-up.

RESULTS: AF rhythm was identified in 11.2% pts, of whom 63.2% presented nAF and 36.8% pAF.

When AF types where compared, pts with pAF had a higher prevalence of cardiovascular (Cv) comorbidities, including hypertension ($p < 0.001$), previous ACS ($p = 0.03$), valvular disease ($p = 0.01$) or stroke ($p = 0.05$), had greater left atrial diameter ($p < 0.001$) and were less likely to have significant coronary lesions ($p = 0.05$). Pts with nAF more frequently presented with STelevation ACS ($p < 0.001$) and had a lower Hemoglobin nadir ($p < 0.001$). The independent predictors of nAF in ACS were age (OR 1.1, $p< =0.001$), LVEF ≤ 40% (OR 2.2, $p = 0.001$), STelevation ACS (OR 2.6, $p< =0.001$) and previous valvular disease (OR 3.5, $p< =0.01$). Compared with the population without AF, nAF was a predictor of in-hospital death (OR 2.9, $p = 0.027$) and in-hospital composite endpoint (death, stroke, reinfarction and cardiogenic shock) (OR 2.5, $p = 0.001$) in multivariate analysis, but pAF wasn't. During 12-months follow-up of pts with ACS and AF, there was no difference regarding death or follow-up composite endpoint (death, stroke and ACS) between the AF types.Regarding antithrombotic therapy, nAF pts were less often anticoagulated ($p < 0.001$) and pAF pts where more often treated with triple antithrombotic therapy (TAT) at HD (<0.001). Most of the pts with TAT stopped the second antiplatelet at agent 6-months (43.8%) or 12 months (25.5%) after HD. During 12-months follow-up, pts discharged with TAT had trend towards more haemorrhagic events (TAT 6.2% vs DAT2.7%,$p = 0.69$) and both groups had similar ischaemic events (death, ACS, stroke) (TAT 20.9% vs DAT23.7%,$p = 0.714$). In multivariate analysis the choice of TAT or DAT wasn't a predictor of ischaemic events.

CONCLUSIONS: In ACS, pts with nAF had worst in-hospital outcomes than pts with pAF. Regarding antithrombotic strategy at HD pts with nFA were less often anticoagulated and less often treated with TAT. In our study the choice between DAT or TAT had no statistical impact on follow-up outcomes.