18.1.1 - Acute Myocardial Ischaemia

# In-hospital prognosis in patients with myocardial infarction and atrial fibrillation

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**Introduction:** The number of patients with myocardial infarction (MI) and atrial fibrillation (AF) is increasing every year.

**Purpose:** to assess the incidence of AF among the patients with MI, the features of the in-hospital prognosis among the patients with MI and AF compared with MI without AF.

**Methods:** The patients with type 1 MI and preexisting AF have been selected from all MI patients MI admitted in 2013-18. They have formed the main group (100 patients). The control group (200 patients with type 1 MI without AF), has been created by "pair selection" method. Patients in the groups did not differ in gender, age, MI date and had not severe comorbidities.

**Results:** 1660 patients with MI were analyzed. AF occurred in 309 patients (18.6% of patients with MI). Preexisting AF was in 59.2%. Patients with MI and AF were older than MI without AF (mean age $75.2 \pm 10.1$ versus $64.6 \pm 12.8$, $p < 0.0001$) with women's prevalence (52.4% versus 35.5%, $p < 0.0001$). Type 1 MI predominates among all patients. Type 2 MI occurred 5 times more often among main group ($p < 0.0001$). 2 groups were adjusted for sex (58% of women in both groups), age (mean age $75.5 \pm 8, 7$ in the main versus $75.2 \pm 8.5$ in the control group, $p = 0.775$). Diabetes (45% versus 31.5%, $p = 0.030$), previous MI (40% versus 25.5%, $p = 0.012$) and stroke (21% versus 11.5%, $p = 0.037$) were more common in the main than in the control. Patients with MI and AF had lower GFR ($56.8 \pm 19.4$ versus $61.7 \pm 17.9$ ml/min/1.73 m2, $p = 0.031$), LDL ($2.8 \pm 0.9$ versus $3.3 \pm 1.0$ mmol/L, $p = 0.0002$). Patients with AF had a lower left ventricular ejection fraction ($55.2 \pm 10.5$ versus $59.8 \pm 10.0$ %, $p = 0.0005$). Significant mitral regurgitation was more common in the main group (53.9% versus 30.3% in the control group, $p = 0.0002$). There were no differences in the incidence of acute heart failure (HF) Killip's 3-4 (20% versus 13%, $p = 0.127$). Patients did not differ in the number of affected coronary artery ($p = 0.7327$), the level of stenosis ($p = 0.1956$), in the frequency of revascularization ($p = 0.0686$). Patients with MI and AF had worse in-hospital prognosis. Pulmonary embolism (PE) (9% in main versus 1% in control group, $p = 0.0011$), minor bleeding (21% versus 9.5%, $p = 0.0057$), combined endpoint (stroke + PE + mortality) (19% versus 10.5%, $p = 0.0415$) were more common in the main group. At discharge, patients with AF had HF III NYHA in 21.8% cases versus 5.5% in patients without AF, $p = 0.0001$. There were no significant differences in other in-hospital endpoints (recurrent myocardial infarction, stroke, major bleeding, and mortality) between the groups. In-hospital mortality was 13% in the main versus 9.5% in the control group ($p = 0.4276$).

**Conclusion:** AF occurs in 18.6% of patients with MI. Patients with AF and MI are older with female prevalence. Type 1 MI predominates. Patients with type 1 MI and pre-existing AF is a group of high risk because of more severe HF, PE, minor bleeding and combined endpoint (stroke + PE + mortality)