

## The current treatment and predictors of outcome in elderly patients with non-ST-elevation myocardial infarction in an all comers population: the POPular AGE registry

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**Background:** Elderly patients form a large and growing part of the patients presenting with non-ST-elevation myocardial infarction (NSTEMI). Choosing the optimal antithrombotic treatment in these elderly patients is more complicated because they frequently have characteristics indicating both a high ischaemic and high bleeding risk.

**Purpose:** We describe the treatment of elderly patients (>75 years) admitted with NSTEMI, present the outcomes (major adverse cardiovascular events (MACE) and bleeding) and aim to find predictors for adverse events.

**Methods:** The POPular AGE registry is an investigator initiated, prospective, observational, multicentre study of patients aged 75 years or older presenting with NSTEMI. Patients were recruited between August 1st, 2016 and May 7th, 2018 at 21 sites in the Netherlands. The primary composite endpoint of MACE included cardiovascular death, non-fatal myocardial infarction and non-fatal stroke at one-year follow-up.

**Results:** A total of 757 patients were enrolled. During hospital stay 76% underwent coronary angiography, 34% percutaneous coronary intervention and 12% coronary artery bypass grafting (CABG). At discharge 78.6% received aspirin (non-users mostly because of the combination of oral anticoagulant and clopidogrel), 49.7% were treated with clopidogrel, 34.2% with ticagrelor and 29.6% were prescribed oral anticoagulation. Eighty-three

percent of patients received dual antiplatelet therapy (DAPT) or dual therapy consisting of oral anticoagulation and at least one antiplatelet agent for a duration of 12 months. At one year, the primary outcome of cardiovascular death, myocardial infarction or stroke occurred in 12.3% of patients and major bleeding (BARC 3 or 5) occurred in 4.8% of the patients. The risk of MACE and major bleeding was highest during the first month and stayed high over time for MACE while the risk for major bleeding levelled off. Independent predictors for MACE were age, renal function, medical history of CABG, stroke and diabetes. The only independent predictor for major bleeding was haemoglobin level on admission.

**Conclusion:** In this all-comers registry, most elderly patients (≥75 years) with NSTEMI are treated with DAPT and undergoing coronary angiography the same way as younger NSTEMI patients from the SWEDEHEART registry. Aspirin use was lower as was the use of the more potent P2Y12 inhibitors compared to the SWEDEHEART which is very likely due to the concomitant use of oral anticoagulation in 30% of patients. The fact that ischemic risk stays constant over 1 year of follow-up, while the bleeding risk levels off after one month may suggest the need of dual antiplatelet therapy until at least one year after NSTEMI.