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Abstract 4013: The Impact of Atrial Fibrillation on the outcomes of patients suffering a second Myocardial Infarction

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In the past 20 years, significant increases in hospital admissions for atrial fibrillation (AF) and in survival of acute myocardial infarction (MI) have been observed. We examined the occurrence of AF and its effect on short and long term outcomes of first MI (FMI) and second MI (SMI). Hospitalized MIs from MIDAS (Myocardial Infarction Data Acquisition System, N=269,110) in New Jersey from 1986 to 2005 were included in the analysis. The rate of the co-existing MI and AF and 30-day and 1 year mortality were investigated. Approximately 11% (N=26,631) of FMI patients had a second event. The rate of co-existing AF for the FMI was 9.6% in 1986 and 16.2% in 2005, a 40.9% increase; while AF increased 60.4%, from 7.7% to 20.5% for SMI. Patients with AF were older (76.5 vs 69.3), more likely to be female (43.6% vs 39.4%), to have subendocardial infarction (58.5% vs 49.2%), less likely to be black in racial (4.2% vs 8.4%) and to receive percutaneous coronary interventions (PCI) (6.1% vs 10.4%). There were more strokes (2% vs 0.9%) and heart failure hospitalizations (HF, 58% vs 39%) in the AF group (p<0.0001). Thirty-day mortality rates (AF vs non-AF) were 20.9% and 13.8% for the FMI patients; and 21.5% vs 14.2% for SMIs. One-year mortality rates were 37.4% and 20.5% at FMI, and 43.3% and 28.1% at the SMI, respectively. When adjusting for age, gender, race, MI site, PCI, year of MI, diabetes, stroke and HF, AF increased the 30 day mortality by 36% (OR 1.36 95% CI 1.32–1.41) for FMI, and by 33% (OR 1.33(1.22–1.46)) for SMI. The effect of AF on mortality was more pronounced at 1 year [FMI 1.54(1.50 –1.58), SMI:1.44(1.34 –1.55)]. Current AF as well as the history of AF increased both 30-day [OR for current AF: 1.35(1.22–1.50), history of AF: 1.17(1.04 –1.32)] and 1-year mortality [current AF: 1.5(1.4 –1.6), history of AF: 1.21(1.11–1.33)]. The rate of AF in MI patients has increased, especially SMIs. AF remains as a strong predictor of worse outcome for patients suffering a second MI.
Both the history of AF and current AF were associated with higher mortality in MI patients.