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1061-86 Underutilization of Oral Anticoagulation for Atrial Fibrillation in Survivors of Acute Myocardial Infarction Influences Long-Term Mortality

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Background: Oral anticoagulation (OAC) treatment is generally recommended in patients with atrial fibrillation (AF) and coronary artery disease. We investigated the prescription of OAC in patients discharged alive with atrial fibrillation after an acute myocardial infarction (AMI) and the influence of OAC treatment on 1-year mortality.
Methods: Prospective cohort study using data from the Register of Information and Knowledge about Swedish Heart Intensive care Admissions (RIKS-HIA) on patients admitted to the coronary care units of 72 Swedish hospitals 1995-2001. All 11141 patients with first registry-recorded AMI who were discharged with atrial fibrillation were included. 1-year mortality data were obtained from the Swedish National Cause of Death Register.
Results: Only 21 %(n=2384) of the patient were prescribed OAC while 79% (n=8757) were not. At 1 year unadjusted mortality was 26% (2301 deaths) in the no-OAC group and 20% (481 deaths) in the OAC treated group. Also in Cox regression analysis adjusting for 36 confounding factors OAC treatment was associated with reduction in 1-year mortality (relative risk, 0.66; 95% confidence interval 0.57-0.76; *P*<0.001) in hospital survivors of AMI with AF. This reduction of mortality was similar among all subgroups based on age, sex, baseline characteristics, previous disease manifestations, and medications.
Conclusions: In daily clinical practise OAC is only given to a minority (21%) of AMI patients with AF despite that OAC is associated with a 34% relative reduction in 1-year mortality. The results emphasizes the importance of OAC treatment for AF after AMI.

1061-87 Effects of Zofenopril on Ischemia Following Myocardial Infarction: The SMILE Study

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Background. Zofenopril calcium is an ACE-inhibitor with a SH-moiety which showed to be effective in pts with MI. Aim of study was to investigate anti-ischemic effects of zofenopril (Z) in post-MI pts with normal LV function.
Methods. A multicentre, randomized, double-blind, placebo-controlled study was performed in 349 post-MI pts with LV ejection fraction (LVEF) > 40% treated with Z (30-60 mg/day) or placebo in addiction to recommended therapy for a period of 6 months. Primary objective was 6-month combined occurrence of: new onset of significant ECG abnormalities, ST-T abnormalities during 48-hour ambulatory ECG monitoring, recurrent-MI, need of revascularization procedures for angina. Secondary objectives were 6-month mortality and morbidity, new onset of post-MI angina, clinical and ECG response to exercise test, rate of CHF (NYHA class II-IV).
Results. One hundred seventy-seven pts have been randomly allocated to Z and 172 to placebo. Fifteen pts have been excluded from analysis because of protocol violation or lost at follow-up. At baseline the two populations were comparable for demographic profile, prevalence of cardiovascular risk factors, MI size and location, LVEF (54.4+/- vs 53.3+/-9), BP and concomitant drug therapy. ST depression on ambulatory ECG occurred in 10.7% of Z treated pts and in 22.2% of those taking placebo (2p=0.027). Peak ST depression was 1.57 mm vs 2.57 mm in pts treated with Z and placebo respectively (2p=0.038). Mean duration of ST depression in the same populations was 7.6 min and 25.2 min (2p=0.020). In response to exercise test a lesser proportion of patients treated with Z complained anginal pain (4.7 vs 14.3%; 2p=0.017), significant ST depression (14.2 vs 26.7%; 2p=0.024) and relevant arrhythmias (3.8 vs 10.5%; p=0.048). Time to ST depression during exercise was increased (6.93 vs 4.42 min; 2p=0.024) and peak ST depression (1.21 vs 1.95 mm; p=0.001) was reduced in Z treated patient. Major cardiovascular events were evenly distributed between study populations with a lesser rate of progression of CHF in Z pts.
Conclusions. This randomized, placebo controlled clinical trial support the anti-ischemic role of Z when given to pts with normal LV function following acute MI.

1061-88 Causes of Death in Patients With ST Elevation Myocardial Infarction Treated With Fibrinolysis

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Background: Recent developments in reperfusion pharmacologic therapy have not further reduced mortality in ST-Elevation myocardial infarction (ST-EMI). We explored the causes of death in a recent ST-EMI megatrial to better understand why patients die following fibrinolysis.
Methods: We evaluated the investigator reported causes of death in 15,078 patients enrolled in InTIME-II (lanoteplase vs alteplase).
Results: There were 913 deaths (6.1% mortality) during the index hospitalization, 93 deaths (0.7% mortality) between hospital discharge and 30 days, and 303 deaths (2.2% mortality) between 31 and 180 days. The six leading causes of early (≤ 30 days) death (n=1006 deaths, 6.7% mortality) were congestive heart failure (CHF) (30%), recurrent MI (20%), cardiac rupture (17%), intracranial hemorrhage (9%), other cardiovascular (9%), and dysrhythmia (7%). Between 30 days and 6 months the leading causes of death were recurrent MI (20%), other non-cardiac (20%), and CHF (18%). Among patients with shock or severe CHF (n=1801, 11.9% incidence) during the index admission, CHF accounted for 53% of the early deaths.
Conclusions: In the modern fibrinolytic era, 30% of early deaths are due to CHF. Among patients developing early shock or severe heart failure, CHF accounted for more than half of the deaths through 30 days. These findings suggest that attempts to reduce early mortality after fibrinolysis should include both therapies that improve myocardial salvage, and more aggressive treatment of post-MI CHF.

Causes of Death

Variable	Inhospital Death	30 Days Death	31-180 Days Death
	(N=913)	(N=1006)	(N=303)
CHF	30.0	29.6	17.5
Recurrent MI	20.2	20.2	19.8
Rupture	18.5	16.9	0.3
Intracranial Hemorrhage	10.0	9.0	0.7
Other Cardiovascular	8.8	8.7	8.3
Dysrhythmia	6.6	6.9	8.6
Other Non-Cardiac	3.5	3.9	19.8
Unobserved	1.3	3.1	9.9
Unknown	1.2	1.7	15.2

Numbers in table represent percentages of death.

1061-89 Trends in Non-ST-Segment Elevation Myocardial Infarction Care: The National Acute Myocardial Infarction Project 1998-2001

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Background: In 2000, the ACC/AHA published guidelines for patients with NSTEMI. Whether release of these guidelines has been associated with increasing use of evidence-based therapies is unknown.
Methods: In two national cohorts of 31,399 and 31,759 older patients hospitalized between 1998-9 and 2000-1 respectively with confirmed AMI, we identified patients who presented with NSTEMI (n=19,278 in 1998-9 and n=21,007 in 2000-1). We assessed change in quality of care using 6 quality of care indicators: admission use of aspirin, admission use of beta blockers, discharge prescription of aspirin, discharge prescription of beta blockers, ACE inhibitors and lipid lowering in 'ideal candidates' without treatment specific contraindications.
Results: An increasing proportion of older patients admitted with AMI had NSTEMI (61.4% in 1998- 9 and 66.6% in 2000-1). From 1998-9 to 2000-1, increases were seen in admission use of aspirin and beta-blockers as well as discharge prescription of aspirin, beta blockers, ACE Inhibitors and lipid lowering therapy.
Conclusions: Two thirds of Medicare beneficiaries hospitalized with AMI in 2000-1 presented with NSTEMI. Only modest advances were made nationally in the care of older patients with NSTEMI and a significant proportion of patients with NSTEMI do not receive evidence-based care. Further interventions are required to improve care for the growing numbers of patients presenting with NSTEMI.

Trends In AMI Care

	1998-1999 Rate (%)	2000-2001 Rate (%)
Early aspirin	81.9	84.0
Discharge aspirin	84.0	85.5
Early beta blocker	60.6	66.8
Discharge Beta blocker	70.6	77.8
Discharge ACE inhibitor	66.6	72.9
Discharge Lipid lowering	52.1	69.4

1061-90 Effects of Mechanical Left Ventricular Unloading on Endothelin-1 Release and Apoptosis

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Background: Endothelin-1 (ET) and apoptosis may play a pivotal role in mediating tissue injury during myocardial ischemia and reperfusion. Left ventricular (LV) unloading during myocardial infarction has been shown to limit reperfusion injury and infarct size. The purpose of this study was to determine the prevention of or reversibility of these processes under mechanical LV assistance.
Methods: Six dogs subjected to 2 hours of left anterior descending coronary artery (LAD) occlusion followed by 4 hours of reperfusion were randomly assigned to: 1/ a control group (n= 3) with sham LV assistance on, 2/ a treated group (n= 3) with mechanical LV assistance on, using a trans-valvular LV assist device, initiated 10 minutes prior to reperfusion. Serial ET levels were obtained from the coronary sinus and aortic blood and measured by radio-immunoassay. The extent of contraction band necrosis in the ischemic area defined by Evan's blue dye was determined by quantitative histology. Cardiomyocyte apoptosis was determined by terminal deoxynucleotidyl transferase-mediated dUTP nick-end labeling (TUNEL) staining.
Results: A similar increase in aortic and coronary sinus blood ET was observed in both groups during LAD occlusion. A significant trans-cardiac increase in ET levels was present in the control group 10 minutes after reperfusion whereas no increase occurred