POSTERS

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The Impact of Weekend and Holiday Versus Weekday Presentation on the Reperfusion Therapy and Clinical Outcomes in Acute Myocardial Infarction Patients

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Background: The aim of this study is to compare clinical outcomes among patients visited hospital with acute myocardial infarction on weekends and holiday during absence of available emergency procedure staff, and those visited on weekdays during working time when available practitioners stay in hospital.
Methods: A total of 13,582 patients diagnosed as AMI from Korean Acute Myocardial Infarction Registry were enrolled in this study. The patients were divided into 3 groups; Patients visited hospital on day time (8am to 6pm) of weekdays (group 1, n=6007), on night time (6pm to 8am) of weekdays (group2, n=3744), on weekend or holiday (group 3, n=3831). Primary end-point was in-hospital mortality. Secondary end-point was major adverse cardiac events (MACE) at one year.
Results: Patient visited hospital on weekends were less likely to undergo invasive cardiac procedures than those were admitted on weekdays (In STEMI patients, primary PCI was done 78.5% of Group1 vs. 73.1% of group2 vs. 69.1% of group3, p<0.001. In NSTEMI patients, early invasive therapy was done in 49.5% of Group 1 vs. 48.5% of Group2 vs. 40.7% of Group 3, p=0.000). In-hospital mortality was observed as 4.9% in Group 1 and 5.3% in Group 2 and 6.0% in Group 3 (p=0.055). On comparison with group of patients visited on day time of weekdays and those on night time of weekday, in-hospital mortality was not different (4.9% vs. 5.3%, p=0.319). On comparison with night time on weekdays and weekend or holiday, in-hospital mortality also was not different (5.3% vs. 6.0%, p=0.212). However compared to group of patients visited hospital on day time of weekday, patients visited on weekend or holiday group had higher in-hospital mortality (4.9% vs. 6.0%, p=0.016). MACE for one year occurred 1883 patients (17.2% of group 1 vs 18.5% of group 2, 19.2% of group3, p=0.081).
Conclusions: The patients visited hospital on weekend and holiday presented with AMI had worse clinical outcome than those visited on weekday. However it was not different between nighttime of weekdays and weekend.

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Impact of hyperglycemia on myocardium at risk and salvage in patients with ST elevation myocardial infarction and the association with exenatide treatment

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Background: Hyperglycemia upon admission in patients with ST-segment myocardial infarction (STEMI) is associated with larger infarct size and adverse prognosis. However, the association of hyperglycemia with area at risk and myocardial salvage has been insufficient studied. Also, exenatide, a glucagon-like-peptide analogue that is known to increase the cellular glucose uptake and reduce the level of blood glucose, has demonstrated to be cardioprotective in STEMI patients undergoing primary percutaneous coronary intervention (PCI). Thus, the aim of this study was to evaluate the association of hyperglycemia with area at risk and salvage index in STEMI patients treated with primary PCI, and assess the interaction between glycemic state and cardioprotective effect of exenatide.
Methods: In this post-hoc study 210 STEMI patients randomized to exenatide or placebo were stratified on the basis of diabetes status and glucose level upon admission. Cardiovascular magnetic resonance was used to measure area at risk and final infarct size.
Results: One-hundred-and-twenty-five (60%) patients had normoglycemia and 85 (40%) hyperglycemia. Patients with hyperglycemia had larger area at risk (33±11 % of left ventricle (LV) versus 30±11 %LV; p=0.027) and final infarct size (12±7 %LV versus 9±6 %LV; p=0.024) than patients with normoglycemia The salvage index did not differ between the groups (0.72±0.15 versus 0.71±0.13; p=0.75), and the infarct size was not different adjusting for area at risk (p=0.54). Among patients with normoglycemia treatment with exenatide resulted in increased salvage index of 10% compared to placebo (p=0.08), and 14% among patients with hyperglycemia (p=0.017), but there was no interaction (p=0.71).
Conclusions: The presence of hyperglycemia upon admission in STEMI patients is related to a larger final infarct size, which can be explained by an equally larger area at risk, but not by a reduction in myocardial salvage index. Also, the cardioprotective effect of exenatide treatment is independent of glucose level upon admission.

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Clinical Profile And Impact Of A Family History Of Premature Coronary Artery Disease On Long-term Clinical Ischemic Events In Patients Undergoing PCI For STEMI: Analysis From The HORIZONS-AMI Trial. Revascularization And Stents In Acute Myocardial Infarction) Trial.

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Background: Family history of premature coronary artery disease (FHC) is a well-known risk factor for the occurrence of CAD. Despite this fact, the clinical profile and prognosis of patients with FHC presenting with STEMI undergoing primary percutaneous coronary intervention (PCI) is unknown.
Methods: A total of 3602 pts presenting with STEMI in the HORIZONS-AMI trial underwent PCI. Angiographic and ischemic clinical outcomes were assessed at 30 days and 3 years according to FHC.
Results: FHC was present in 1059/3601 pts (29.4%). Pts with FHC were more likely to be younger (56.7 years vs. 62.1 years, p<0.0001), current smoker (52.4% vs. 43.5%, p<0.0001), have dyslipidemia (47.7% vs. 41.1%, p=0.0003), were less likely to have diabetes (14.1% vs. 17.5%, p=0.01) or peripheral vascular disease (3.1% vs. 5.0%, p=0.01), and had shorter time for symptoms to presentation time (100 minutes vs. 120 minutes, p=0.002). There was no difference in the severity of extend of CAD at baseline according to FHC. Pts with FHC had better angiographic results after PCI, with higher rates of TIMI 3 flow (93.8% vs. 90.6%, p=0.002), myocardial blush grade 2 or 3 (83.2% vs. 78.0% p=0.0008), less slow reflow (0.8% vs. 2.1%, p=0.006) and abrupt closure (0.1% vs. 0.6%, p=0.05). The unadjusted 30-day and 3-year mortality rates were lower in pts with FHC compared to no FHC (1.8% vs. 3.0%, p=0.046 and 4.8% vs. 7.7%, p=0.002, respectively), while other ischemic endpoints were similar between the two groups. By multivariable analysis, the presence of FHC was not an independent predictor of death at 3 years (HR [95%C] = 0.87 [0.60, 1.25], p=0.45).
Conclusions: Patients with STEMI in whom FHC was present were younger and (surprisingly) more often smokers. Despite better acute angiographic results after PCI in patients with compared to without PCI, the presence of FHC was not an independent predictor of long-term death or event-free survival.