major bleeding and eptiﬁbatide was modeled into the National Cardiovascular Database Registry (NCDR) bleeding risk score to evaluate independent risk.

Results: Signiﬁcant procedure related differences exist between groups (Table 1), while in hospital adverse events were similar (OR: 0.12, 95% CI, 0.90 - 2.96). No difference in TIMI major bleeding was seen (3.9% vs. 6%; p = 0.20). Eptiﬁbatide modestly increased the bleeding risk (OR: 1.64; 95% CI, 1.01 - 2.67, p = 0.045), however, it did not improve the NCDR bleeding risk models’ ability to predict events.

Conclusion: Use of combination therapy reﬂects a high risk STEMI population. Despite this, the risk of in-hospital adverse events was not different between patients receiving bivalirudin plus eptiﬁbatide vs. bivalirudin monotherapy. Likewise, combination therapy did not increase rates of major bleeding. Therefore, the use of eptiﬁbatide should be considered in the higher risk STEMI population.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Bivalirudin + eptiﬁbatide (n=210)</th>
<th>Bivalirudin alone (n=1649)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiogenic shock</td>
<td>15.7%</td>
<td>9.4%</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Aspiration thrombectomy</td>
<td>8.5%</td>
<td>23.7%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>First MI</td>
<td>13.5%</td>
<td>19%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Peak troponin I</td>
<td>93.6 ± 92.7</td>
<td>94.16 ± 81.59</td>
<td>0.001</td>
</tr>
<tr>
<td>Type C lesion</td>
<td>50.5%</td>
<td>42.4%</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

CRT-115

In the Current Era of ST Elevation Myocardial Infarction Treatment, What Patients Are Not Reperfused? - An Observational Analysis

Laurna McGovern1, Thomas J. Kiernan2
1University College Cork, Cork, Ireland; 2Limerick University Hospital, Limerick, Ireland

Background: The current treatment of ST segment elevation myocardial infarction (STEMI) is mechanical reperfusion by Primary Percutaneous Coronary Intervention (PPCI) or systemic thrombolysis. Several factors are related to non-reperfusion, with advanced age being particularly signiﬁcant. At present, no study has examined the presentation and characteristics of the non-reperfused patient in Ireland. Further study is clearly needed in this area, especially as the older demographic of the population increases.

Objective: To deﬁne, understand and critically evaluate STEMI patients who do not receive reperfusion therapy.

Methods: The Coronary Heart Attack Ireland Register (CHAIR) was used to identify STEMI patients who did not receive reperfusion therapy between January 1st 2000 and December 31st 2011. A retrospective review of patient charts was performed at Cork University Hospital, Mercy University Hospital, South Infirmary Victoria University Hospital and Mallow General Hospital. The proportion of non-reperfusion to patient mortality was also examined in terms of 30-day mortality and 1-year mortality post STEMI.

Results: 77 cases were included. Results indicate that most were female (n=47, 61%) with a median age of 80.39 years. 54.5% (n=42) had a past medical history of coronary heart disease with hypertension being the main risk factor (n=43, 55.8%). 49% (n=38) were considered independent in terms of ADLs. Patient mortality at 30 days post STEMI was 55.8%. This increased to 61% at 1 year.

Conclusion: As the older demographic in our population increases, this patient cohort will become particularly signiﬁcant. Mortality among these patients is high yet a signiﬁcant number were considered independent in terms of ADLs. Prospective evaluation of this patient cohort needs to take place to monitor the effect of the introduction of the PPCI National Strategy in Ireland in 2012. Internationally, larger studies are needed to determine the role of social factors as predictors of non-reperfusion.

CRT-116

Predictors of Inappropriate Activation of the Cardiac Catheterization Laboratory for Code STEMI

Tiffany Wang, Gaurav Sharma, Henry Chu, David M. Shavelle
University of Southern California, Los Angeles, CA

Background: Patients presenting with ST elevation myocardial infarction (STEMI) beneﬁt from primary percutaneous coronary intervention (PCI) if performed in a timely manner. Inappropriate activation (IA) of the cardiac catheterization laboratory is associated with signiﬁcant time and ﬁnancial costs. Patient level predictors of IA have not been well-characterized. The objective of this study was to determine predictors of IA in patients activated for code STEMI.

Methods: We retrospectively analyzed a cohort of 396 consecutive patients who were activated for code STEMI from January 2009 through April 2011 at a large, urban teaching hospital. Those who underwent emergent coronary angiography (with or without PCI) were categorized as having appropriate activation (n=228). Patients for whom code STEMI activation was subsequently cancelled and did not undergo emergent coronary angiography were categorized as inappropriate activation (n=168). Both groups were compared and predictors for IA were determined using multivariate logistic regression analysis.

Results: IA occurred in 42% of patients activated for code STEMI. Mean age, gender distribution, and history of prior myocardial infarction were similar between the groups. Body mass index < 18.5, use of self-transport to the emergency department, initial complaint, recent cocaine use, history of congestive heart failure, and history of atrial ﬁbrillation were signiﬁcantly between the two groups. Independent predictors for IA included age ≤ 35 years (odds ratio [OR], 4.85; 95% CI, 1.18-19.96; p=0.03), body mass index < 18.5 (OR, 15.91; 95% CI, 5.38-47.07; p<0.0001), absence of both chest pain and shortness of breath at presentation (OR, 3.21; 95% CI, 1.79-5.76; p=0.0001), recent cocaine use (OR, 5.01; 95% CI, 1.19-10.12; p=0.02), history of congestive heart failure (OR, 3.59; 95% CI, 1.58-8.13; p=0.002), and history of atrial ﬁbrillation (OR, 3.47; 95% CI, 1.19-10.12; p=0.02).

Conclusions: Multiple patient-level characteristics were associated with IA of the cardiac catheterization laboratory. Younger age, absence of both chest pain and shortness of breath, recent cocaine use, and history of heart failure and atrial ﬁbrillation were independent predictors of IA.

CRT-117

Hispanic Patients Undergoing Primary PCI within Los Angeles County STEMI Receiving System

Eric Bansal, Takeshi Ozanuki, Han Tan, David Shavelle
University of Southern California, Los Angeles, CA

Background: Hispanics are one of the largest growing ethnic minorities in the United States but have been under represented in contemporary cardiovascular trials. Information regarding Hispanic patients treated with Primary PCI within a regional STEMI system of care has not been previously reported.

Methods: The Los Angeles County Emergency Medical System (EMS) STEMI Receiving Center (SRC) Database was queried from January 2007 to December 2011 to identify all patients with a pre-hospital ECG showing STEMI. Eight thousand, eight hundred and thirty-seven patients were included; 1,737 (19.7%) were Hispanic and 4,637 (52.5%) were non-Hispanic whites. Hispanic and non-Hispanic whites undergoing primary PCI were compared based upon demographics, treatment time intervals and in-hospital clinical outcome.

Results: Hispanic patients were younger compared to non-Hispanic whites, 62.8 vs 67.5 years, p < 0.0001, respectively. Treatment times including medical contact to door time (21 ± 12.9 vs 20.7 ± 12.2 mins, p = 0.43) and door to balloon time (63.1 ± 31.7 vs 63.9 ± 33.3 mins, p = 0.20) were similar between the Hispanic and non-Hispanic whites, respectively. Hispanic patients achieved a higher rate of TIMI 3 flow in the infarct related artery compared to non-Hispanic whites, 86.7% vs 83.7%, p = 0.04, respectively. The rate of vascular complications, need for emergent coronary artery bypass surgery, occurrence of stroke, length of hospital stay and in-hospital mortality were similar between the groups (Table).

CRT-118

Prevalence of Inappropriate Activation of the Cardiac Catheterization Laboratory for Code STEMI

Tiffany Wang, Gaurav Sharma, Henry Chu, David M. Shavelle
University of Southern California, Los Angeles, CA

Background: Patients presenting with ST elevation myocardial infarction (STEMI) benefit from primary percutaneous coronary intervention (PCI) if performed in a timely manner. Inappropriate activation (IA) of the cardiac catheterization laboratory is associated with significant time and financial costs. Patient level predictors of IA have not been well-characterized. The objective of this study was to determine predictors of IA in patients activated for code STEMI.

Methods: We retrospectively analyzed a cohort of 396 consecutive patients who were activated for code STEMI from January 2009 through April 2011 at a large, urban teaching hospital. Those who underwent emergent coronary angiography (with or without PCI) were categorized as having appropriate activation (n=228). Patients for whom code STEMI activation was subsequently cancelled and did not undergo emergent coronary angiography were categorized as inappropriate activation (n=168). Both groups were compared and predictors for IA were determined using multivariate logistic regression analysis.

Results: IA occurred in 42% of patients activated for code STEMI. Mean age, gender distribution, and history of prior myocardial infarction were similar between the groups. Body mass index < 18.5, use of self-transport to the emergency department, initial complaint, recent cocaine use, history of congestive heart failure, and history of atrial fibration were significantly between the two groups. Independent predictors for IA included age ≤ 35 years (odds ratio [OR], 4.85; 95% CI, 1.18-19.96; p=0.03), body mass index < 18.5 (OR, 15.91; 95% CI, 5.38-47.07; p<0.0001), absence of both chest pain and shortness of breath at presentation (OR, 3.21; 95% CI, 1.79-5.76; p=0.0001), recent cocaine use (OR, 5.01; 95% CI, 1.19-10.12; p=0.02), history of congestive heart failure (OR, 3.59; 95% CI, 1.58-8.13; p=0.002), and history of atrial fibrillation (OR, 3.47; 95% CI, 1.19-10.12; p=0.02).

Conclusions: Multiple patient-level characteristics were associated with IA of the cardiac catheterization laboratory. Younger age, absence of both chest pain and shortness of breath, recent cocaine use, and history of heart failure and atrial fibrillation were independent predictors of IA.
Conclusions: Treatment times and clinical outcome were similar between Hispanic and non-Hispanic whites. These findings suggest that ethnic disparities to cardiovascular care can be overcome using an integrated regional STEMI system.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Hispanic (n=1737)</th>
<th>Non-Hispanic whites (n=4937)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke</td>
<td>0.5</td>
<td>0.6</td>
<td>0.35</td>
</tr>
<tr>
<td>Emergency coronary artery bypass surgery</td>
<td>1.3</td>
<td>0.8</td>
<td>0.19</td>
</tr>
<tr>
<td>Vascular complications</td>
<td>1.1</td>
<td>0.9</td>
<td>0.69</td>
</tr>
<tr>
<td>Length of stay, days</td>
<td>5.0 +/- 1.1</td>
<td>4.8 +/- 4.3</td>
<td>0.31</td>
</tr>
<tr>
<td>In-hospital mortality</td>
<td>4.3</td>
<td>4.8</td>
<td>0.56</td>
</tr>
</tbody>
</table>

Gender Differences in Patients Undergoing PCI for Acute Myocardial Infarction

Shirley Edwards, Brittany Wagman, Han Tun, Ray V. Matthews, Antikumar Mohra, Michael Gaglia, Leonardo Claesig, David M. Shakelle
University of Southern California, Los Angeles, CA

Background: Previous studies suggest that women undergoing percutaneous coronary intervention (PCI) for acute myocardial infarction (AMI) experience increased complications (bleeding) and mortality compared to men.

Methods: The Los Angeles County-USC and Keck Hospital PCI Database were queried from January, 2008 to December, 2012 to identify all patients undergoing PCI with a diagnosis of AMI, including STEMI and NSTEMI. Eight hundred seventy-two patients were included: 182 women (21%) and 690 men (79%). Predictors of in-hospital mortality were determined using multivariable logistic regression analysis.

Results: Women were older and had a higher prevalence of diabetes and hypertension compared to men (Table). The prevalence of insulin dependence was higher and contrast, men had a significantly worse for women compared to men. In contrast, men had a significantly higher prevalence of metabolic syndrome. The number of diseased vessels and number of bare metal and drug eluting stents received were similar between genders; women had a higher prevalence of left main disease. There was a trend for a higher prevalence of cardiogenic shock in women compared to men and intra-aortic balloon pump use was significantly higher in women. Unadjusted in-hospital mortality and occurrence of stroke was higher in women compared to men. However, after multivariable logistic adjustment for baseline differences, female gender was no longer associated with increased in-hospital mortality.

Conclusions: In AMI patients receiving PCI, females had increased unadjusted in-hospital mortality when compared to males. Baseline differences between genders, including age, ethnicity and severity of diabetes mellitus, explain this increase in mortality.

Prediction of Myocardial Salvage by Modified Selvester QRS Score in Patients with ST-Segment Elevation Myocardial Infarction After Primary PCI

Ahmed ElMahmoudy Nayel,1 Sameh Sabat,1 Amr Sammy2
1Ain-Shams University, Cairo, Egypt; 2National Heart Institute, Cairo, Egypt

Background: QRS scores correlate well with the final infarct size and post MI left ventricular function. Tc99m-Sestamibi scan, despite the radiation hazard , is the gold standard for assessing the infarction size before and after reperfusion and it is considered a reliable method for assess myocardial salvage.

Objective: To assess the ability of modified Selvester QRS score to predict myocardial salvage index measured by Tc99m-Sestamibi scan in patients with acute ST-elevation myocardial infarction after primary coronary intervention.

Methods: Thirty patients presented to by acute STEMI, eligible for reperfusion therapy, underwent primary PCI after injection of Tc-99m sestamibi then within 6 hours the 1st SPECT image was take (myocardium at risk). A follow up SPECT image was taken after discharge (final infarction size) and the myocardial salvage index was calculated. Modified Selvester QRS score (based on 37 criteria capable of generating a total of 29 points) was calculated on admission ECG and 90 minutes after primary PCI.

Results: The modified Selvester QRS score calculated before 1yr PCI significantly correlated with myocardium at risk (r = 0.737, P<0.0001), and modified Selvester QRS score calculated after 1yr PCI also significantly correlated with final infarction size (r = 0.641, P=0.0001) The percent of change in QRS score from before to after the procedure significantly correlated significantly with the myocardial salvage index (r = 0.764, P<0.0001). Multiple regression analysis showed that post procedure TIMI flow grade and changes in QRS score are independent predictors of myocardial salvage index (P = 0.03, <0.0001 respectively), while the QRS score before procedure, anterior location of the infarction and the presence of diabetes are independent predictors of the myocardium at risk (p = 0.0001, 0.0001, 0.036 respectively), and the QRS score after procedure, anterior location of the infarction and post procedure TIMI flow grade are independent predictors for the final size of infarction(p = 0.001, 0.021, 0.041 respectively). Receiver-operating characteristic (ROC) curve analysis for the value of change in QRS score in prediction of myocardial salvage revealed a sensitivity and specificity of 88.89% and 66.67% respectively, a positive predictive value and a negative predictive value of 96% and 40% respectively.

Conclusion: The percent of change in modified Selvester QRS score before and after 1yr PCI in patients with acute STEMI significantly correlated with the myocardial salvage index measured by Tc99m scan.

Role of Subendocardial and Subepicardial Left Ventricular Functions in the Prediction of Left Ventricular Remodeling in Patients with Anterior Wall STEMI

Ahmed ElMahmoudy Nayel,1 Adel Elterady,1 Wahid Elhamamy,2 George Gendy2
1Ain-Shams University, Cairo, Egypt; 2Dar Elshafa Hospital, Cairo, Egypt

Background: Left ventricular remodeling has been associated with an impaired prognosis in patients after MI and is thought to represent an important therapeutic target in these patients. Reperfusion therapy can limit adverse LV remodeling in patients with acute MI. Tissue Doppler imaging has permitted a quantitative assessment of subendocardial and subepicardial functions.

Objective: To determine if subendocardial and subepicardial functions assessment can predict LVR.

Methods: 75 consecutive patients with the first anterior STEMI who underwent primary PCI were enrolled in the study. Echocardiography was done for all patients 24-48 hrs after 1yr PCI and 6-month later. LV (ESV, EDV and EF), diastolic function parameters and Tei-index were assessed. Pulsed wave TDI was used to measure subendocardial and subepicardial functions and LV dyssynchrony index. LVR was defined as an absolute increase of ESV >20%.

Results: Only 60 patients completed their follow up. They were divided into two groups according to the occurrence of LVR. The 28 patients (46%) with LVR had higher peak CK-MB level, longer pain to balloon time, higher initial heart rate, lower post procedure TIMI flow and MBG, less frequent ST segment resolution and lower EF compared to no LVR group. Also they had higher Tei-index (p<0.000), lower