Conclusions: In STEMI patients performed primary or rescue PCI within 24 hours, microvascular resistance index was independent predictor not only early cardiovascular events but also long-term cardiovascular events. P451 | BEDSIDE

AVR the ignored lead in pre hospital management of STEMI patients
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Purpose: The prognostic value of lead AVR has recently been underlined by different studies even though a long time neglected. Our objective is to evaluate the role played by lead AVR in the pre hospital management of STEMI patients.

Method: Observational cohort study including consecutive STEMI patients treated with prehospital fibrinolysis in the French SAMU emergency medical system from 2003 to 2007. Baseline demographic characteristics at admission, ECG features and outcome data were collected and entered in an univariate analysis to determine the role played by lead AVR in triaging STEMI patients.

Results: 200 consecutive patients were included. Pre-hospital medical reports and prehospital ECG were reviewed to stratify patients in accordance with ST segment shift in lead AVR (trigger 0.5mm). The prevalence of ST shift in lead AVR was similar in women and men (42% vs 42% respectively). ST segment elevation, 25% and ST depression 75% but never notified in medical reports. ST segment elevation in lead AVR was significantly correlated in the acute phase with shock related and major cardiac events such as veno-arterial dyshymia and acute heart failure. Results are shown in table below.

Univariate analysis results

<table>
<thead>
<tr>
<th>Sample size</th>
<th>n=118</th>
<th>n=19</th>
<th>n=63</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age yrs</td>
<td>6.5 ± 17</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>Pain to management delay within 2 hours</td>
<td>82 ± 16</td>
<td>86 ± 16</td>
<td>46 ± 16</td>
</tr>
<tr>
<td>3 vessel disease</td>
<td>23 ± 5</td>
<td>5</td>
<td>12 ± 5</td>
</tr>
<tr>
<td>Cardiogenic shock</td>
<td>5 ± 4</td>
<td>5 ± 4</td>
<td>3 ± 4</td>
</tr>
<tr>
<td>Major cardiac events</td>
<td>7 ± 5</td>
<td>5 ± 5</td>
<td>3 ± 5</td>
</tr>
<tr>
<td>In hospital mortality</td>
<td>5 ± 3</td>
<td>2 ± 3</td>
<td>0 ± 2</td>
</tr>
</tbody>
</table>

Conclusion: ST elevation in lead AVR has a high prognostic value in our study, correlating with early cardiogenic shock and acute cardiac events. It should be considered as a marker of worse outcome and must participate in triaging STEMI patients.

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Reducing door-to-balloon time in patients with ST-segment elevation myocardial infarction affect in-hospital and one-year mortality in a network experience in Italy
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Purpose: Door-to-balloon (DBb) time is correlated with mortality in patients with ST-elevation myocardial infarction (STEMI) undergoing primary percutaneous coronary intervention (PCI). The D2B Alliance was developed by ACC to improve DBb time and included several specific strategies. The aim of this study was to evaluate the impact of mortality in STEMI patients after implementation of these strategies in our network.

Methods: Our Hub & Spoke network for STEMI, in the province of northwest of Tuscany, Italy, began in April 2006. This program involved 5 Spoke centers and 1 Hub PCI-center. In December 2009, from June 2008 the D2B Alliance strategies were implemented in our network (cath lab team ready in 20-30 minutes of acute phase STEMI patients performed primary or rescue PCI). The results were analyzed according to age, risk factors, and previous coronary angiographic data. Also, use of an invasive strategy and the use of pre-hospital ECG to activate the cath lab while patient is on route were considered.

Results: The median DBB time was 96 min (80-120), 25th-75th percentile, respectively. In-hospital mortality was associated with a longer DBB time as compared to alive patients (135 vs 95 min, p<0.0001). Also, a significant reduction of DBB time (75% vs 125) in patients with STEMI who received primary PCI in STEMI (OR 0.90; 0.73-1.11) did not significantly differ from patients treated with rescue PCI. However, our results indicated that the use of pre-hospital ECG to activate the cath lab while patient was on route had a significant impact on in-hospital and one-year mortality analysis.

Conclusion: Implementation of the strategies recommended by ACC D2B Alliance can strongly improve DBB time and mortality in STEMI patients.

P453 | BENCH

CD4+CD28null T-cell enrichment at the culprit lesion site in STE-ACS
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Background: The elevation acute coronary syndrome (STE-ACS) is among the leading causes of death. Coronary thrombosis is still poorly understood. We hypothesize that circulating leukocytes adhere to rupture-prone plaques and mediate plaque rupture and thrombotic occlusion. It has been shown that circulating CD4+CD28null T-cells are increased in STE-ACS, especially in patients suffering from diabetes and/or recurrent cardiovascular events. Our aim is to characterize CD4+CD28null T-cells at the culprit lesion site in STE-ACS patients.

Methods: We studied STE-ACS patients (n=109), who underwent primary percutaneous coronary intervention (PCI). Persistent and recurrent CD4+CD28null T-cells were characterized in culprit site plasma compared to peripheral plasma and correlated with decreased intracellular levels.

Results: CD4+CD28null T-cells were associated at culprit lesion site compared to peripheral and prehospital fibrinolysis patients. Contrast, CD4+CD28null T-cells were segregated at the culprit lesion site.

Conclusion: CD4+CD28null T-cells accumulate specifically at the culprit lesion site in STE-ACS patients. These cells are responsible for the high levels of cytotoxic proteins. Further experiments will evaluate the impact of this finding on outcome.

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Gender differences in the use of invasive strategies and recommended medications for AMI in the EHS 2009 snapshot registry

Background and aim: Whether there remains a sex bias in the use of interventional procedures and medications at the acute stage of AMI remains uncertain. We assessed the use of invasive strategies and early medications across European regions in the EHS 2009 snapshot registry.

Methods: 47 member countries participated, with 677 active centres, which collected data on 4236 patients admitted with AMI in 48 hours of symptom onset during a one-week period in December 2009, of whom 2563 (61%) had STEMI. Participating countries were grouped into 5 main regions, adapted from the United Nations geoscheme for Europe. Multivariate logistic regression was used to determine independent correlations with the use of invasive strategies or medications.

Results: Women were older than men (71±13 vs 64±13 years), and presented less frequently with STEMI (75% vs 67%). Overall, coronary angiography (62% vs 72%), PCI (48% vs 59%) and primary PCI (36% vs 43%) were used significantly less in women. Likewise, aspirin (96% vs 98%), clopidogrel (87% vs 92%), GPlIB/IIIa inhibitors (18% vs 28%), statins (87% vs 92%), beta-blockers (82% vs 85%) were less used in women, with similar trends in all 5 regions. After adjustment on age, risk factors, and previous history, however, use of an invasive strategy (OR 0.88; 0.73-1.05) or primary PCI in STEMI (OR 0.90; 0.73-1.11) did not significantly differ between genders. However, PCI, while used significantly less often (OR 0.83; 0.70-0.97). Among medications, use of aspirin, beta-blockers and ACE-I did not differ significantly between genders, while GPlIB/IIIa inhibitors (OR 0.88; 0.73-1.05) and statins (OR 0.66; 0.52-0.85) were less used in women. Consistent trends were noted across all regions. In-hospital death was 9.3% in women and 5.0% in men (P<0.001), with a trend persisting after multivariate adjustment (OR 1.30; 0.98-1.75, P<0.07). This trend disappeared after adding use of invasive strategy into the multivariate model (OR 1.06; 0.50-2.27).

Conclusion: The use of an invasive strategy was essentially similar in men and women, although PCI was more seldom used in women; in contrast, several medications, including antiplatelet agents were less used in women. Trends were consistent across all regions.