Syndrome Israeli Survey (ACSIS) were prospectively characterized and followed-up for 5 years. Patients were classified into 3 groups: no VTA, early VTA (≤48h) and late (>48h) VTA. Data was analyzed according to decades of presentation (current decade vs. previous decade)

Results: VTA occurred in 3.2% (362) of patients. The rate of early vs. late VTA were 2.4% (269) and 0.8% (93) respectively. Patients with late VTA were older and had higher incidence of diabetes mellitus and chronic renal failure. ST-elevation MI was complicated more often by early VTA than late VTA. Kaplan-Meier survival analysis showed that mortality rates at 5 years of follow-up were lowest in the no VTA (22%), intermediate in the early VTA group (28%) and very high (65%) in the late VTA group, respectively (log-rank p<0.001 for the overall difference during follow-up ([Figure: left panel]). Late VTA was associated with lower mortality rate in the current decade (2008–2016) compared with last decade (2000–2006) (Fig: right panel).

Conclusions: Late VTA following acute myocardial infarction is associated with very high long-term mortality rates. However, over the past decade there has been a significant improvement in survival rates in this high- risk population, that may be attributed to early and invasive reperfusion therapy, ICD implantation and better medical treatment.

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Incidence and impact of occluded culprit coronary arteries in patients with non-ST-segment elevation myocardial infarction

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Introduction: The accuracy of the 12-lead electrocardiogram (ECG) to diagnose acute coronary artery occlusion, specifically in inferolateral myocardial infarction (MI), is limited. Failure to manifest ST-segment elevation leads to delayed reperfusion in some patients. Studies addressing the outcomes of patients with missed occluded culprit arteries (OCAs) presenting with non-ST-segment elevation MI (NSTEMI) have reported inconsistent results.

Purpose: Evaluate the incidence and prognostic impact of OCAs in patients with NSTEMI.

Methods: We analysed retrospectively all patients admitted consecutively in a coronary care unit with NSTEMI from October 2010 to September 2016 who underwent coronary angiography and had a clearly defined culprit artery. We compared baseline characteristics and both in-hospital and 1-year outcomes between patients with and without OCAs. Statistical analysis was performed in SPSS.

Results: We included 866 patients [mean age 64.6±12 years; 662 (76.4%) men], of whom 221 (25.5%) had an OCA. The OCA was more frequently the left circumflex (LCX) (45.7%vs20.5%, p<0,001) and less frequently the left anterior descending (27.6% vs 49.6%, p<0,001), with no difference regarding the right coronary artery (26.2% vs 20.9%, p=0.1).

Patients with OCAs were younger (62.2 vs 65.4, p=0.001), more likely to be men (82.8% vs 74.3%, p=0.01), to have family history of CAD (10.9% vs 5.9%, p=0.04) and history of angina (43.9% vs 51.9%, p=0.04). There were no differences regarding cardiovascular (CV) risk factors, previous CV disease and major co-morbidities.

Patients with OCAs were more likely to have persistent chest pain on admission (34.7% vs 25.3%, p=0.03) and less likely to underwent percutaneous coronary intervention (PCI) (55.2% vs 72.9%, p<0,001) and be treated with glycoprotein IIb/IIIa inhibitors (39.8% vs 50.5%, p=0.01). The in-hospital stay was more frequently complicated by re-infarction (2.3% vs 0.6%, p=0.04) and mechanical complications (0.9% vs 0, p=0.02). There were no significant differences regarding admission Killip class, ECG, in-hospital medication, left ventricular ejection fraction (61.3% vs 61%) and other major complications.

Regarding outcomes, there were no statistically significant differences concerning in-hospital mortality (1.8% vs 0.9%, p=0.291), 1-year mortality (2.1% vs 4.2%, p=0.177) and 1-year re-hospitalization (15.5% vs 18.8%, p=0.3).

Conclusion: Approximately 1 in every 4 patients with NSTEMI have an occluded culprit coronary artery, which is more frequently the LCX. These patients are younger, more frequently men and more likely to manifest persistent chest pain at admission. In our study, a missed OCA had no impact on in-hospital or 1-year outcomes. Contrary to conventional teaching, OCAs in NSTEMI may not function as the equivalent of transmural infarction in STEMI. One possible explanation is that the greater prevalence of collaterals in patients with OCAs may mitigate the extend of myocardial damage.

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Gender stratified predictive capability of three well-validated risk scores in patients with acute myocardial infarction undergoing primary percutaneous coronary intervention

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Background: Several risk scores have been developed to predict mortality of patients with acute myocardial infarction (AMI) undergoing primary percutaneous coronary intervention (pPCI), with no data on the comparative prognostic value among different genders.

Purpose: We aimed to compare the prognostic value of 3 validated risk scores for in-hospital and post-discharge to 3-year mortality of patients with AMI undergoing pPCI among genders.

Method: From a prospective electronic registry of a high-volume PCI center in a period 2009–2015, a total of 3137 (30% women) consecutive patients referred for pPCI were identified for analysis. For each patient, Age, Creatinine, and Ejection Fraction (ACEF), Controlled Abciximab and Device Investigation to Lower Late Angioplasty complications (CADILLAC) and ZWOLLE risk score were calculated using required clinical and angiographic characteristics. The predictive discriminatory capacity of the evaluated risk scores was expressed as the c-statistic, which represents the area under the ROC (receiver operating characteristic) curve for predicting in-hospital and post-discharge to 3-year mortality in both, men and women.

Results: Observed mortality rates were significantly higher for women compared to men, for in-hospital (4.8 vs 2.5%; p=0.001) but not for post-discharge to 3-year period (13.1 vs. 11.3%; p=0.156), respectively. Among both, men and women, all three scores ACEF, CADILLAC, and ZWOLE showed high predictive accuracy for in-hospital mortality (Men: c-statistic 0.838, 0.861 and 0.873, respectively; Women: c-statistic 0.845, 0.824 and 0.886, respectively) (Figure). While in men all 3 scores showed equal capacity, among women ZWOLLE score performed best showing better discriminative power compared to CADILLAC (p=0.04) but not to ACEF score (p=0.25). As expected, predictive capability for post-discharge up to 3-years mortality of evaluated scores declined for both groups, in men (c-statistics 0.677–0.769) and in women (c-statistics 0.672–0.761) with ZWOLLE score having the weakest predictive capacity in both groups compared to ACEF and CADILLAC (p<0.001). There was no statistically significant differences in c-statistics for each score accordingly between genders, for both outcome periods.
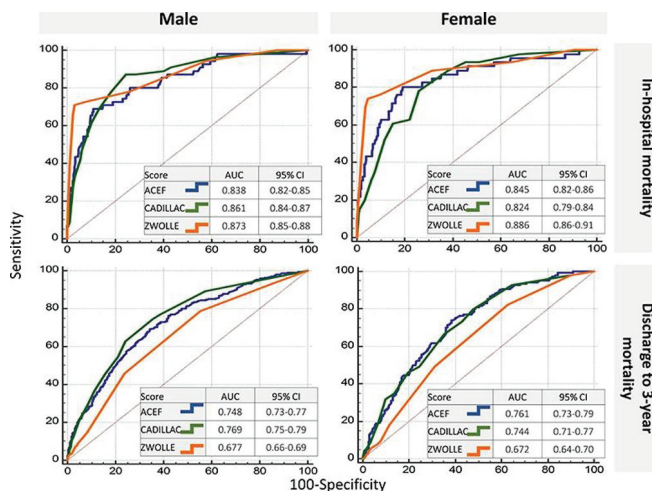
Conclusion: In both men and women, ACEF, CADILLAC and ZWOLE risk scores enable highly accurate prediction for in-hospital and good predictive capability, with exception of ZWOLLE, for post-discharge mortality. There is variability in predictive accuracy for mortality of evaluated scores within, but not between genders, for both outcome periods.

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Cardiogenic shock in STEMI patients:prevalence, management and acute phase mortality over the last three decades

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Background: Cardiogenic shock (CS) is an ominous complication of ST elevation myocardial infarction (STEMI). However, the widespread use of reperfusion therapies and invasive management could have reduced the prevalence of CS and improved the prognosis of these patients in the last decades.

Purpose: The aim is to analyze the changes over last three decades in the prevalence, management and acute phase prognosis of STEMI patients complicated with CS.

Method: Between February 1989 and December 2017, 7,589 STEMI patients were consecutively admitted in the Coronary Care Unit of a University Hospital and were included in a prospective registry. Depending on the year of admission, patients were classified in five groups: 1989–1994: n=1,337, period 1; 1995–1999: n=960, period 2; 2000–2004: n=1,059, period 3; 2005–2009: n=1,535, period 4 and 2010–2015: n=2,698, period 5. We analyze the trend in prevalence of CS, management and in-hospital mortality over these five periods.

Results: The global prevalence of CS was 6.2% (466 patients), mean age was 67.7 (SD 11.7) years and 68.7% were men. This prevalence remains without rel-