CONCLUSION In patients presenting with primary arrhythmia, 47% have been shown to have an elevated troponin. This is higher than previously reported. In this study T2MI patients had an increased mortality compared to the T1MI group. Within the cohort classified as T2MI, patients with T2MI driven by other aetiologies had a worse mortality rate compared to those with T2MI driven by arrhythmia. These data can be used to help clinicians risk stratify T2MI patients before deciding on the appropriate management. Further data are now required.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-630

Clinical impact of dynamic morphology of T-wave inversion after Primary Percutaneous Coronary Intervention in Patients with ST-segment Elevation Myocardial infarction

Gwangsil Kim,[1] Young Sup Byun[1]
[1]Sanggye Paik Hospital, Seoul, Korea, Republic of

BACKGROUND T-wave inversion which developed shortly after primary percutaneous coronary intervention (PCI) in patients with ST-segment elevation myocardial infarction (STEMI) is known to be related with reperfusion or myocardial viability and considered good prognostic predictor. However, there have been little data about the correlation between persistent T-wave inversion and clinical outcome in patients with STEMI.

METHODS We categorized patients into three group according to T-wave morphology after primary PCI: no newly developed T-wave inversion, newly developed T wave inversion but disappeared within 6 months (recovered T-wave group), newly developed T-wave inversion and persistent over 6 months (persistent T-wave group). New T-wave inversion was defined as new onset of T-wave inversion within 48 hours after primary PCI. The primary endpoint was the major adverse cardiac events (MACE) including cardiac death, myocardial infarction, target vessel revascularization and rehospitalization for heart failure.

RESULTS A total 299 patients were analyzed and followed up for mean 25months. The patients with no newly developed T-wave inversion was 70, recovered T-wave with 158 and 71 patients with persistent T-wave group respectively. The cumulative MACE rate was significantly lower in patients with recovered T-wave group than no new T-wave and persistent T-wave group. (9.7% vs. 20.3% vs. 19.7%, respectively, p= 0.043). In multivariate Cox regression analysis, recovered T-wave inversion was an independent prognostic factor for MACE compared with no or persistent T-wave inversion group. (Hazard ration 0.49, 95% confidential interval 0.26-0.91, p=0.026).

CONCLUSION Newly developed T wave inversion but disappeared within 6 months group was associated with favorable long-term outcome compared with no-newly developed T-wave inversion or persistent T-wave inversion group.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-631

Optimal Timing of Percutaneous Coronary Intervention in Patients With Non-ST-Segment Elevation Myocardial Infarction Complicated by Acute Heart Failure

Dae Young Hyun,[1] Min Chul Kim,[2] Myung Ho Jeong,[2] Doo Sun Sim,[2] Young Joon Hong,[2] Juhan kim,[3] Youngkeun Ahn,[4] Tae Hoon Ahn,[5] Seung Ki-Bae,[6] Dong Joo Oh,[7] Hyo-Soo Kim,[8] Hyeon Cheol Gwon,[9] In Whan Seong,[10] Shung Chae,[11] Young Jo Kim,[12] Seok-Kyu Oh,[13] Jei Keon Chae[14]
[1]Chonnam national university hospital, Gwangju, Korea, Republic of; [2]Chonnam National University Hospital, Gwangju, Korea, Republic of; [3]Chonnam Univeristy Hospital, Gwangju, Korea, Republic of; [4]Chonnam National Univ Hosp, Gwangju, Kuwait; [5]Gachon University Gil Medical Center, Incheon, Korea, Republic of; [6]Catholic University Hospital, Seoul, Korea, Republic of; [7]Korea university Guro Hospital, Seoul, Korea, Republic of; [8]Seoul National University Hospital, Seoul, Korea, Republic of; [9]Samsung Medical Center, Seoul, Korea, Republic of; [10]Chungnam National University Hospital, Daejeon, Korea, Republic of; [11]Kyungpook National University School of Medicine, Daegu, Korea, Republic of; [12]Yeungnam university hospital, Daegu, Korea, Republic of; [13]Wonkwang University School of Medicine, Iksan, Korea, Republic of; [14]Chonbuk National University Hospital, Jeonju, Korea, Republic of

BACKGROUND Current guideline recommends immediate coronary angiography within 2 hours after admission in patients with non-ST-segment elevation myocardial infarction (NSTEMI) complicated by acute heart failure (HF). However, it is difficult to decide to perform early percutaneous coronary intervention (PCI) in these high risk patients due to the risk of procedural complications. We aimed to investigate the impact of PCI according to various timing in NSTEMI patients with acute HF using the Korean large multicenter registry.

METHODS Between November 2011 and October 2015, a total of 1027 patients with NSTEMI complicated by acute HF who underwent successful PCI were analyzed from the Korea Acute Myocardial Infarction Registry-National Institute of Health. Patients were divided into 4 groups according to PCI timing: group I (immediate invasive strategy, PCI < 2 hours after admission, n = 149), group 2 (early invasive strategy, 2-<24 hours, n = 577), group 3 (delayed invasive strategy, 24-<72 hours, n = 189) and group 4 (late PCI group, ≥ 72 hours, n = 112). The primary endpoint was in-hospital mortality from cardiac cause. We also analyzed the incidence of cardiac death, nonfatal MI, target-vessel revascularization (TVR) and re-hospitalization due to acute HF during follow-up period (median 356 days [interquartile range 186-379]).

RESULTS The prevalence of acute HF in patients with NSTEMI was 15.2% at initial presentation. There were no differences among the 4 groups in baseline characteristics except for higher prevalence of history of cerebrovascular disease in group 4 (8.7 vs. 11.6 vs. 10.1 vs. 18.8%, p = 0.046). In laboratory examination, the level of N-terminal pro B-natriuretic peptide (median value 1679 ng/mL [250-4619] vs. 3017 [650-10734] vs. 3869 [831-10713] vs. 5274 [2287-14736], p = 0.024) was lower in group 1 than other groups and left ventricular ejection fraction was slightly lower in group 4 (47.5 vs. 47.5 vs. 44.9 vs. 42.2%, p <0.001). Despite comparable in-hospital complication rates among 4 groups, cardiogenic shock more occurred in group 1 (26.2 vs. 15.1 vs. 5.8 vs. 10.7%, p <0.001) and in-hospital cardiac mortality was also higher in group 1 than other groups (12.8 vs. 6.4 vs. 2.1 vs. 2.7%, p <0.001). In multivariate analysis, PCI within 2 hours increased the risk of in-hospital cardiac death compared to those who underwent PCI later (hazard ratio [HR] 1.92, 95% confidence interval [CI] 1.09-3.38, p = 0.024]. Although PCI within 24 hours (vs. ≥ 24 hours) also showed higher in-hospital cardiac mortality (HR 2.79, 95% CI 1.27-6.18, p = 0.011), there was no difference in in-hospital cardiac mortality between PCI within 72 hours and PCI after 72 hours (HR 2.37, 95% CI 0.74-7.58, p = 0.145). The incidence of cardiac mortality, nonfatal MI, TVR and re-hospitalization due to HF during 1-year follow-up was comparable among groups regardless of initial PCI timing.

CONCLUSION Early PCI was associated with increased in-hospital cardiac mortality in patients with NSTEMI complicated by acute HF. Delayed PCI after stabilization, especially 72 hours later, may be reasonable in these high risk patient.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-632

Hyperglycemia on admission and coronary reperfusion therapy during the acute phase of a STEMI in non-diabetic patients

Talamali Amrane,[1] Mohamed Sofiane Lounes,[2] Sara Heddi,[3] Mounir Bouame[1]
[1]Central hospital of army, Algiers, Algeria; [2]Hôpital Central de l'armée, Algiers, Algeria; [3]Central hospital of army, Algiers, Algeria

BACKGROUND The relation between hyperglycemia on admission and the mortality in short term after an acute coronary syndrome is a well-known notion that has been reported before and after the era of coronary revascularisation in particular among non-diabetic patients. The objective is to analyse the effect of coronary reperfusion in the acute phase on the relation between the glycaemia on admission and the in-hospital mortality of STEMI in non-diabetic patients.

METHODS A prospective, multicentric study about 1222 non-diabetic patients (HBA1C< 6.5%) admitted during the first 24 hours of a STEMI. The mean age of the population was 60.28 yo ± 13 yo, the mean glycemia on admission was 1.39 g/l ± 0.333, 56.2% of the patients benefit from early coronary reperfusion, the in-hospital mortality was 7.2%.

RESULTS The results showed a linear correlation between the level of glycemia on admission and in-hospital mortality, an increase of 10mg/l of serum glucose was associated to an increased mortality of 2,6%(2,0-3,3), p<0,001. The mortality was higher in the population of patients who haven't receive any reperfusion therapy 12,2% versus 3,3% (p<0,001). But the impact of the glycemia on-admission seems more important on the population of reperfused patient adjusted OR à 5,2 (1,5-17,5), p=0,008 versus adjusted OR 2,7 (1,3-5,38), p=0,005.

CONCLUSION Hyperglycemia on admission is an independent predictive factor of short term mortality in non diabetic patients during the acute phase of STEMI, its impact is more important in patients who benefit from a revascularisation therapy at an early stage.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-633

Impact of delays of reperfusion of STEMI on angiographic results of thrombolysis

Talamali Amrane,[1] Mohamed Sofiane Lounes,[2] Sara Heddi,[3] Mounir Bouame[1]
[1]Central hospital of army, Algiers, Algeria; [2]Hôpital Central de l'armée, Algiers, Algeria; [3]Central hospital of army, Algiers, Algeria

BACKGROUND The main goal of treatment of acute coronary syndrome with ST segment elevation is the quick restoration of TIMI 3 coronary blood flow and myocardial perfusion in the infarcted area. This reperfusion can be provided by either a pharmacological strategy (Fibrinolysis) or mechanical (PCI). The choice between the two strategies is most often based on local possibilities. The objective of this work is to evaluate the impact of delays between the onset of chest pain and the first medical contact on the angiographic results of fibrinolysis.

METHODS Among the 1049 patients thrombolysed within 12 hours of onset of STEMI symptoms, we selected 378 patients with mono-vessel coronary disease at coronary angiography that was performed within 24 hours after thrombolysis. Patients were divided into six (06) groups based on their times of arriving by intervals of 2 hours.

RESULTS The average age of the population was 55.7 ± 8.07 years, the average time between the onset of chest pain and arrival at the hospital was 319 ± 186 minutes. All patients were thrombolysed as recommended in less than 30 minutes from the first medical contact, with a mean of 18.4 ± 4,7mn, and the rate of permeable coronary arteries with TIMI 3 flow was 76% . There were no significant differences between the six (06) study groups on demographic and epidemiological characteristics. However, the rate of permeable culprit arteries with TIMI 3 flow was significantly higher in the group of patients thrombolysed within 2 hours (94.4%; p <0.001; df: 5). This rate gradually decreased by the prolongation of delays before admission 44.1% of patients in the thrombolysed group between the 10th and 12th hour. There is an inverse correlation between the rate of TIMI 3 flow and arrival time at the hospital (r = - 0.282, p = 0.001). The rate of bleeding complications was lower in this young population (<70 years), with 7 patients (1.85%) who presented only minor bleeding.

CONCLUSION All studies comparing fibrinolysis to primary angioplasty are consistent, mechanical reperfusion is better than thrombolysis which is relegated to second intention if recommended delays for angioplasty are exceeded. However, in real life, patients do not all arrive during the "golden hour" and hospital structures do not all have a technical platform ensuring primary angioplasty 24h/24h. We have demonstrated in our work, the results of thrombolysis may be influenced by the time between the onset of pain and first medical contact. Results similar to those of primary angioplasty are found in patients consulting in the first 2h (94.4% of TIMI flow 3) without major bleeding.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-634

**Multivessel Disease in STEMI patients: A meta-analysis comparing complete vs. incomplete percutaneous revascularization**

Hector Garcia-Garcia,[1] Alexandre Hideo-Kajita,[2] Kayode Kuku,[2] Solomon Beyene,[2] Viana Azizi,[3] Yael Meirovich,[4] Gebremedhin Melaku,[5] Ahn Bui,[2] Aaphtaab Dheendsa,[2] Echo Brathwaite,[2] Sameer Desale,[2] Michael Lipinski,[2] Ron Waksman[2]
[1]Medstar Washington Medical Center, Bethesda, Maryland, United States; [2]Medstar Washington Hospital Center, Washington, District of Columbia, United States; [3]Medstar Health Research Institute, Hyattsville, Maryland, United States; [4]MCRN, Washington, District of Columbia, United States; [5]Medstar Health Research Institute, Washington, Maryland, United States

BACKGROUND The invasive strategy of treating the culprit vessel only (e.g. incomplete revascularization - IR) in patients with ST elevation myocardial infarction (STEMI) and multivessel disease (MVD) is a matter of debate. Current guidelines recommend that PCI should be restricted to the culprit vessel in these situations. However, newer data suggests that performing complete revascularization (CR) in MVD patients may lead to better outcomes compared to intervention in the culprit vessel only. The aim of this meta-analysis is to determine if CR following primary PCI in STEMI patients is associated with better outcomes.

METHODS Meta-analysis was performed by conducting a literature search of PubMed from January 2004 to May 2017. Pooled estimates of outcomes, presented as odds ratios (OR) [95% confidence intervals], were generated under the random-effects model. The analysis compared the population of 9 studies (8 randomized controlled trials and 1 propensity-score matching study, total of 3.401 patients). CR was performed in 1.574 patients and IR in 1.827 patients.

RESULTS The results for each endpoint are the following: major adverse cardiovascular events – MACE – (event rate: CR 14.6% vs. IR 25.0%, OR 0.47, 95% CI: 0.35-0.63, p<0.00001) (Figure 1); All-cause mortality (event rate: CR 4.12% vs. IR 5.5%, OR 0.67, 95% CI: 0.48-0.94, p=0.02); All-MI (event rate: CR 4.57% vs. IR 5.68%, OR 0.68, 95% CI: 0.44-1.05, p=0.08) and repeat revascularization (event rate: CR 8.37% vs. IR 18.38%, OR 0.37, 95% CI: 0.28-0.49, p<0.00001).

Figure 1. A - Forest Plot of the risk of MACE after Incomplete revascularization (IR) vs. Complete revascularization (CR) strategies.
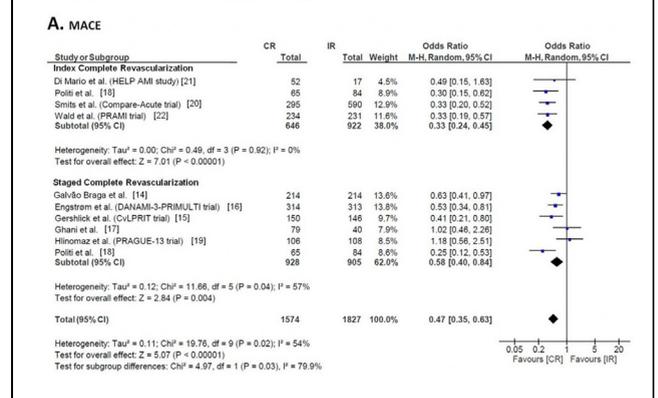
CONCLUSION Compared to incomplete revascularization, complete revascularization is associated with reduction of all major cardiovascular outcomes. Revascularization guidelines may need to be updated in light of these new results.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-635

Impact of stent thrombosis and non-stent-related re-infarction in patients with previous ST-segment elevation myocardial infarction

Mariusz Tomaniak,[1] Dominika Klimczak,[2] Maria Tovar,[3] Marcella De Paolis,[4] Joost Daemen,[5] Jeroen Wilschut,[6] Peter de Jaegere,[7] Felix Zijlstra,[8] Nicolas Van Mieghem,[9] Roberto Diletti[10]
[1]Thorax Center, Erasmus MC, Department of Interventional Cardiology, Rotterdam, Netherlands, Medical University of Warsaw, First Department of Cardiology, Warsaw, Poland; [2]Thorax Centre, Erasmus MC, Department of Interventional Cardiology, Rotterdam, Netherlands, Medical University of Warsaw, Department of Immunology, Transplant Medicine and Internal Diseases, Division of Heart Failure and Cardiac Rehabilitation, Warsaw, Poland; [3]Thorax Centre, Erasmus MC, Department of Interventional Cardiology, Rotterdam, Netherlands; [4]Thoraxcenter, Erasmus MC, Department of Interventional Cardiology - Santa Maria Hospital, Terni, Italy, Rotterdam, Terni, Terni, Italy; [5]Erasmus MC - Thoraxcenter, United States; [6]Thoraxcenter Erasmus MC, Rotterdam, Netherlands; [7]Department of Cardiology, Erasmus MC, Rotterdam, Netherlands; [8]Thoraxcenter, Erasmus Medical Centre, Rotterdam, Netherlands; [9]Thoraxcenter, Erasmus Medical Center,