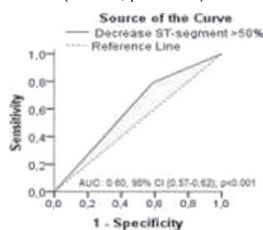


the "gold standard" for coronary reperfusion. Therefore, when PPCI is not available or cannot be offered in a timely manner, pharmacoinvasive strategy (PIS) is an alternative of reperfusion. The ECG plays a crucial role in the PIS scenario: the decision to classify which patient meets reperfusion criteria or should be referred for rescue PCI should be done quickly in a short period of time.

**Purpose:** To analyze the behaviour of the ECG ST-segment pre and 60 min post thrombolysis, and its association with angiographic patterns based on TIMI flow and Blush grades criteria.

**Material and methods:** This was an observational and retrospective study, with data collected prospectively. Exclusion criteria were only absolute contraindication for TNK. A cohort of 2,015 patients undergoing fibrinolytic therapy (Tenecteplase -TNK) in prehospital centers during the first 6h of symptom onset, and referred to a tertiary hospital for coronary angiography 3–24 hours after fibrinolysis or immediately if rescue was needed. The ECG was performed pre-TNK and 60 minutes post-lysis. Two independent observers, unaware of the patients' clinical characteristics interpreted the ECGs. The electrocardiographic reperfusion criterion was defined by guidelines (ST-segment reduction greater than 50% in the lead with the highest segment elevation). Two experienced hemodynamicians performed angiographic flow analyzes according to the TIMI and Blush definition.

**Results:** The median time in minutes (and its interquartile range) between symptoms onset and TNK infusion was 220 (140–345). Patients were categorized according to TIMI-Blush scores in two groups: those with optimal reperfusion (TIMI flow 3-Blush grade 3) and those with less optimal or no reperfusion (TIMI flow <3 and Blush grade <3). There was a significant decrease of ST-segment elevation in 67% of all patients. The prediction of ideal coronary reperfusion, using ECG reperfusion criteria with ST-segment decrease analysis, showed a positive predictive value of 71.2%, negative predictive value of 51.6%, sensitivity of 79.8% and specificity of 41.1%. So, there was a weak positive correlation (by Pearson's method) between ST-segment decrease and angiographic data of optimal reperfusion ( $r=0.21$ ;  $p<0.001$ ).



Decrease of ST-segment vs T3B3

**Conclusion:** Our results suggest that decrease of ST-segment elevation, analyzed as recommended by several guidelines, in patients undergoing PIS, failed to accurately identify patients that will present adequate angiographic reperfusion. Therefore, other methods or biomarkers should be studied to improve the predictive power of complete reperfusion in patients utilizing PIS.

## P2723

### A real world comparison of a pharmacoinvasive versus primary PCI strategy in ST-elevation myocardial infarction: ST-segment recovery and clinical outcome

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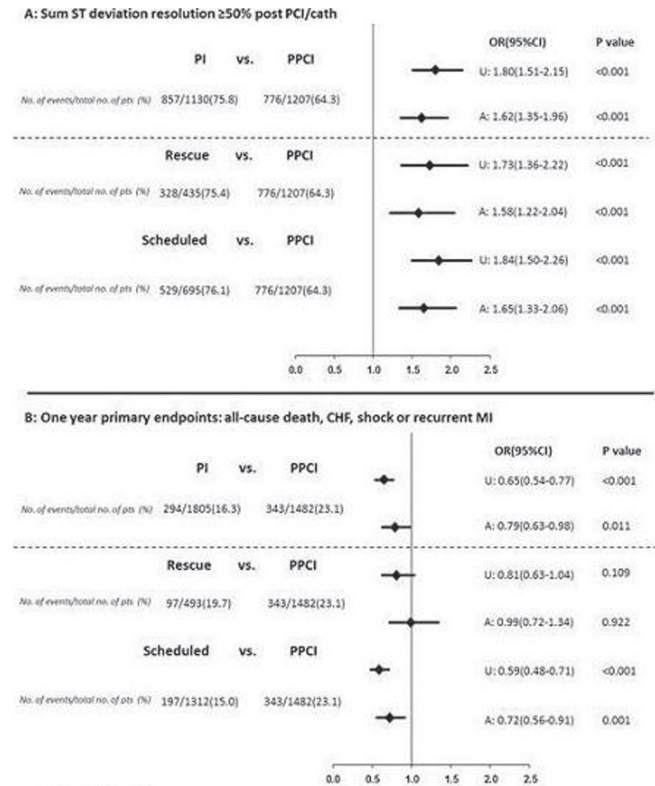
**Background:** Recent clinical trial data supports a pharmacoinvasive (PI) strategy as a useful alternative to primary percutaneous coronary intervention (PPCI) in early treated patients with ST-elevation myocardial infarction (STEMI).

**Purpose:** We evaluated whether this assertion was supported in a "real world" established pre-hospital STEMI network using electrocardiogram (ECG) assessment of reperfusion along with clinical outcome.

**Methods:** Between August 2006 to March 2011 (n=2079) and October 2013 to June 2016 (n=1208) we studied 3287 consecutive STEMI patients receiving reperfusion within 12 hours of symptom onset using the Alberta Vital Heart Response Program. The ECGs were analyzed within an established core laboratory blinded to clinical outcomes; ST-segment deviation resolution  $\geq 50\%$  was defined as the measure of successful reperfusion ( $\sim 30$  minutes post PCI ECG for PI and PPCI). The primary composite endpoint was 1-year all-cause death, congestive heart failure (CHF), cardiogenic shock and recurrent myocardial infarction (MI). Logistic regression models were used to examine the multi-variable adjusted association between reperfusion strategy and outcome.

**Results:** Of the study cohort, 54.9% (n=1805) received a PI approach (rescue: 27.3% [n=493]; scheduled: 72.7% [n=1312]) and 45.1% (n=1482) received PPCI. Compared to PPCI, PI patients were younger (median age [IQR]: 58 [51,65] vs. 60 [51,70] years,  $p<0.001$ ), had a lower GRACE risk score (median score [IQR]: 135 [122,162] vs. 143 [126,174],  $p<0.001$ ) and had shorter symptom onset to treatment (median time [IQR]: 128 [80,210] vs. 212 [138,349] minutes,  $p<0.001$ ). Similar symptom onset to baseline ECG and baseline Q waves were noted between PI versus PPCI (92 (50, 176) vs. 92 (48, 180) min,  $p=0.98$ ; 36.6% vs. 38.9%,  $p=0.18$  respectively) but baseline sum ST-segment deviation was greater

in PI patients (median [IQR]: 11 [7,17] vs. 10 [7,16],  $p=0.001$ ). As seen in Figure 1, greater ST-segment deviation resolution was observed with a PI strategy. At one year, the primary clinical endpoint was lower with a PI approach. No heterogeneity was observed in the primary endpoint when stratified by time from symptom onset to treatment (needle or first balloon inflation) (<3 hours: adjusted OR 0.85, 95% CI 0.63–1.15; 3 to 6 hours: adjusted OR 0.73, 95% CI 0.49–1.08; >6 to  $\leq 12$  hours: adjusted OR 0.81, 95% CI 0.46–1.41,  $p$ -interaction=0.815). In-hospital major bleeding and intracranial hemorrhage (ICH) were similar between PI and PPCI (6.5% vs. 6.6%,  $p=0.880$ ; 0.5% vs. 0.6%,  $p=0.797$ , respectively).



U: Unadjusted

A: Adjusted for age, sex, diabetes, hypertension, systolic blood pressure, heart rate, inferior MI, time from symptom onset to treatment.

Figure 1

**Conclusions:** Results from consecutive STEMI patients managed in an integrated pre-hospital dual reperfusion STEMI program suggests a PI strategy is associated with improved ST-segment resolution following PCI with enhanced clinical outcome at one year compared to PPCI. Our findings provide support for the broad application of a dedicated fibrinolysis PI reperfusion strategy as a reasonable alternative to PPCI.

## P2724

### Washout and long-term stabilization of cholesterol after acute coronary syndrome

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**Background:** Cholesterol, specifically low-density lipoprotein (LDL), are a main target for treatment after acute coronary syndrome (ACS). ESC guidelines aim for a LDL <1.8mmol/L after ACS. However, detailed information of the temporal pattern and time until stabilization following ACS is unknown as well as the percentage of patients that reach this target.

**Purpose:** To describe the washout pattern of LDL, high-density lipoprotein (HDL) and total cholesterol after ACS and to determine the percentage of patients that reach a LDL <1.8 mmol/L; the target level as set by the ESC guidelines.

**Methods:** BIOMArCS is a multicenter, prospective, observational study in which 844 patients presenting with ACS were followed-up during 1 year. Venipuncture was performed every fortnight during the first half-year and monthly thereafter. We determined cholesterol levels in 150 randomly selected patients. In order to describe early washout patterns after the index ACS, this subset was enriched with 49 patients who underwent daily sampling during the first 4 days, while the