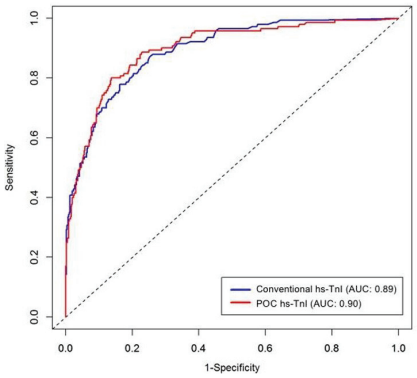
a hs-TnI POC assay (LSI Medience Corporation, PATHFAST hs-cTnI; the limit of detection of the reagent lot used in the study was determined to 2.9 ng/L; CV at the 99th percentile <5.4%). Different algorithms for the rule-out of MI were tested: Both serial troponin I concentrations, on admission and after one hour, had to be ≤ a cutoff X (X ranging from 2 ng/L to 10 ng/L). Sensitivity, negative predictive (NPV), percent of patients ruled out were calculated for all cutoff levels.
Results: Receiver operator characteristics (ROC) curve for admission troponin levels showed comparable diagnostic performance for both hs-TnI assays yielding AUC values of 0.90 for the POC and 0.89 for the conventional hs-TnI assay (Figure 1). The capability to rule out MI was equal in both assays: E.g., for a troponin I cutoff X ≤6ng/L on admission and after one hour sensitivity was 97.0% for the POC and 97.7% for the conventional assay, NPV was 98.9% for the POC and 98.9% for the conventional assay, while 54.3% of all patients were ruled out by the POC and 43.3% by the conventional assay.

Figure 1: Receiver operator characteristics analysis for the diagnosis of acute myocardial infarction using admission troponin levels



Conclusion: The tested hs-TnI POC assay showed similar diagnostic performance compared to an established conventional hs-TnI assay. The use of a POC assay might enable faster processes for the management of patients with suspected MI.

P3182
Diagnostic accuracy of high sensitive cardiac troponin T in patients with suspected acute coronary syndrome and severe chronic kidney disease

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Background/Introduction: In patients with severe chronic kidney disease (CKD), the diagnostic accuracy of high sensitive cardiac troponin (hs-cTNT) in the diagnosis of acute coronary syndrome (ACS) is still unclear. These patients present baseline hs-cTNT elevation up to 40% of the 99th percentile, reducing therefore the essa specificity in case of suspected ACS.
Purpose: The aim of our study was to identify the optimal cut-off level of hs-cTNT in patients with coronary artery disease requiring revascularization. The predictive value of the new hs-cTNT cutoff was also investigated in terms of incidence of major adverse cardiovascular events (MACE) at 12 months of follow up.
Methods: All patients with severe CKD (defined as estimated glomerular filtration rate (GFR) <30mL min^{-1} 1.73 m^{-2}) presenting with symptoms suggestive of ACS who underwent cardiac catheterization between January 2011 and December 2016 were included. Angiographic indication to revascularization, (PCI or CABG), was adjudicated by three independent cardiologists. Patients were stratified in one of two groups: the intervention group, comprising patients undergoing PCI or CABG, and medical group. Area under the receiver-operator curve (AUC) was used to identify the optimal hs-cTNT cutoff for predicting the indication to revascularization.

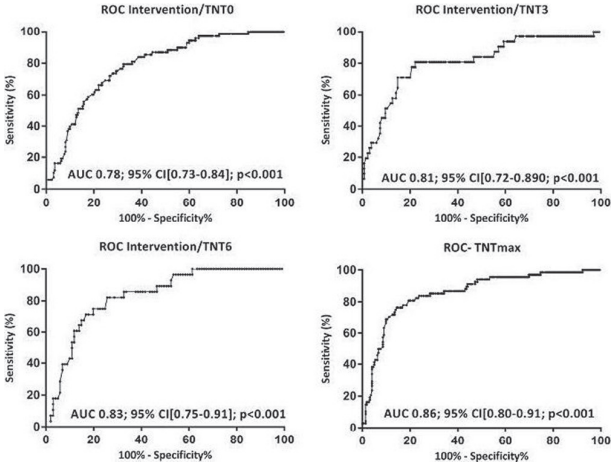

Figure 1

Results: 290 patients (median age 73 [64–78]) were enrolled in the study. Of these, 137 (47%) had a GFR between 29–15 ml/min/1.73, 19 (7%) <15 and 134 (46%) were undergoing dialysis for renal failure. 222 (76%) patients required revascularization via PCI (68%) or CABG (9%) and 68 (23%) were conservatively treated. The most frequent index event in the intervention group was NSTEMI (91%, n=201), and in the medical group unstable angina (31%, n=21). Median hs-cTNT was significantly higher in the intervention group at baseline, 3, 6 hours and peak (at baseline: 160 [69, 484] vs.46 [28, 81]; p<0.01; at peak: 282 [132–742] vs. 56 [32–92], p<0.01, in the intervention vs. medical group respectively), with no difference among dialysis and non-dialysis patients. Optimal cutoffs of hs-cTNT at presentation, 3-and 6 hours, and peak values quantified by the AUC, are shown in Figure 1. The ROC-optimized cutoff value of hs-cTNT for patients with severe CKD was 78ng/l with a sensitivity and specificity of 92% and 72% respectively. Patients with a peak hs-cTNT >78 ng/l had significantly higher rates of MACE at 1 year. After adjusting for age, gender, cardiovascular risk factors and previous CAD, the optimized cut-off remained an independent predictor of MACE at 1 year (HR 3.38, 95% CI [1.74–6.55], p<0,001).
Conclusion: This study identifies an optimal cutoff of hs-cTNT in patients with severe renal dysfunction and suspected ACS able to predict significant coronary stenosis and midterm cardiovascular adverse events. In patients with severe CKD higher essay specific cut-off levels of hs-cTNT predict appropriate indications for cardiac catheterization.

P3183
Does complying guidelines matter?

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Introduction: Time until reperfusion since symptoms onset in STEMI patients (pts) can be a matter of life and death, being used as an indicator or marker of quality of care.
Objective: To compare the differences in the prognosis among pts who comply and do not comply with the recommended times according to the 2017 ESC guidelines for the management of acute myocardial infarction in patients presenting with STEMI.
Methods: We analysed retrospectively 1222 STEMI pts admitted in our coronary care unit during five years. The recommended times by the ESC guidelines are: maximum time from STEMI diagnosis to wire crossing in pts presenting at PCI hospitals ≤60min; maximum time from STEMI diagnosis to wire crossing in pts not presenting at primary PCI hospitals ≤120min. Pts were divided into two groups: group 1 - STEMI pts within the recommended times by the ESC guidelines (n=464, 38%); group 2 - STEMI pts without the recommended times by the ESC guidelines (n=758, 62%). Primary endpoint was the occurrence of death at 30 days, 6 months and 1 year; follow-up was completed in 100% of patients.
Results: Of the 1222 STEMI pts analysed, 248 (18.8%) were admitted directly in a PCI centre and 974 (81.2%) were rescued by an emergency medical system (EMS) or presented to a non-PCI centre. Regarding the times recommended by the 2017 ESC guidelines: 76 (30.6%) pts admitted in a PCI centre were revascularized in ≤60minutes; and 388 (39.8%) pts rescued by EMS or admitted in a non-PCI centre were revascularized ≤120 minutes. Group 1 pts were younger (59±13 vs 63±14; p<0.001), had higher proportion of men (81.9% vs 75.6%; p=0.012) and history of smoking (60.7% vs 49.1%; p<0.001). Group 2 pts had higher proportion of hypertension (47.2% vs 53.7%, p=0.031), diabetes (17.1 vs 24.4%, p=0.005), presented more frequently Killip 4 at admission (2.6% vs 5.1%, p=0.043), and left ventricular dysfunction (LVEF<40%) (31% vs 37.9%, p=0.018). Patient delay was statistically higher in group 2 (Mdn (min) 70±107 vs 101±122, p<0.001). At 30 days, (2,4% vs 8.7%, p<0.001), 6-month (3.2% vs 11.6%, p<0.001) and 1 year (4.5% vs 13.6%, p<0.001) mortality was higher in patients who did not comply with the recommended times according to the 2017 ESC guidelines. In multivariate analysis and after adjusting for different baseline characteristics, patients who complied with the recommended times according to the 2017 ESC guidelines had lower risk of 1 year mortality compared to those who did not comply [HR 0.42, 95% CI (0.23–0.74), p=0.003].
Conclusion: Complying with the guidelines recommendations to reduce system delay during STEMI treatment remains crucial, since patients who are reperfused within the recommended time have lower mortality. Thus, it is fundamental to adopt organizational measures to reduce system delay and strengthen health care educational programmes to reduce patient delay, still the greatest delay in the treatment of STEMI.