

Abstract: P468

Circumflex artery-related ST-elevation myocardial infarction is associated with an increased delay in primary PCI: data from the Austrian acute PCI registry

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Purpose: Standard 12-lead ECG shows low sensitivity to detect acute myocardial infarction (MI) related to the circumflex artery and data on primary PCI in affected patients (pts.) is rare. We aimed to investigate characteristics and outcome in pts. with ST-elevation MI undergoing primary PCI according to the infarct-related artery (IRA).

Methods: Within a prospective nationwide registry of myocardial infarction we identified 4846 pts. treated with primary PCI from July 2009 to October 2012. These patients were subdivided according to the IRA (LAD 43.7%, RCA 42.8%, CX 13.5%). Characteristics, time delays, treatment and outcome were compared between the 3 groups.

Results: Baseline characteristics were similar except a higher rate of current smokers, higher BMI and age in the pts. with CX-related MI. Total ischemic time was highest in the CX group (3.7 hours, IQR 2.3-7.2) and lowest in the LAD group (3.2 hours, IQR 2.1-6.2; $p < 0.01$). The rate of field triage was lowest in the CX group (LAD 59.1%, RCA 59.9%, CX 52.9%; $\chi^2 p = 0.01$). ST-segment depression in left precordial leads (V1-V3/4) were more often documented in the CX (59.8%) and the RCA groups (50.4%) than in the LAD group (13.2%; $\chi^2 p < 0.01$). Overall in-hospital mortality was 5.0% and higher in the LAD-group (6.4%) than in the RCA (3.9%) or CX group (3.7%; $\chi^2 p < 0.01$).

Conclusion: CX-related STEMI show similar in-hospital mortality rates compared to STEMI with the RCA as the culprit artery. These data underline the importance of critical initial assessment and ECG diagnosis in order to shorten delays, to increase the number of direct transfers and to improve outcome in patients with CX-related STEMI.