IMPACT OF REPERFUSION STRATEGY ON ABORTED MYOCARDIAL INFARCTION: INSIGHTS FROM A LARGE CANADIAN STEMI CLINICAL REGISTRY

Poster Contributions
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Background: Reperfusion in STEMI improves survival. Moreover, early reperfusion may abort the infarct and avoid significant myocardial necrosis. Yet, limited real world data exists and comparison between reperfusion strategies has not been performed. Accordingly, we assessed the frequency and outcomes of aborted MI (AbMI) in patients receiving reperfusion.

Methods: Using a comprehensive registry of STEMI patients, we prospectively collected serial ECGs and clinical data (Aug 2006 - Mar 2011). AbMI was defined as maximal creatine kinase ≤2X ULN with typical ECG changes. ECG confounders and subjects with incomplete data were excluded.

Results: Of 2281 STEMI patients reperfused within 12 hours, 15.2% were aborted with the highest frequency seen within 1 hour (31.1%). AbMIs were more common in females (29.8% vs. 20.2%, p< 0.001) and presented earlier (156 min [IQR 186] vs. 186 min [IQR 205] p=0.001). Higher rates were seen with fibrinolysis versus primary PCI (16.3% vs. 13.8%, p=0.092) with a temporal trend seen up to 4 hours from symptoms (p trend <0.001, Figure). ST-segment resolution ≥50% and absent Q waves on discharge ECG were more common with AbMI (88.1% vs. 75.0%, p<0.001; 95.1% vs. 53.2%, p<0.001). In-hospital death, recurrent MI, heart failure, cardiogenic shock was reduced with AbMI (4.0% vs. 10.9%, p<0.001).

Conclusions: In a large registry, AbMI is common and associated with improved outcomes. Early reperfusion with fibrinolysis enhance AbMI and should be incorporated into STEMI systems of care.