PROGNOSTIC UTILITY OF LEFT VENTRICULAR END-DIASTOLIC PRESSURE MEASUREMENT IN PATIENTS WITH STEMI UNDERGOING PRIMARY PCI: THE HORIZONS-AMI TRIAL

ACC Poster Contributions
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Background: Measurement of left ventricular end diastolic pressure (LVEDP) is readily obtainable in patients with STEMI undergoing primary PCI. However, the prognostic utility of LVEDP in STEMI is unknown.

Methods: LVEDP during the index primary PCI procedure was measured in 2,797 patients in the HORIZONS-AMI trial. Outcomes were assessed at 30 days and 2 years, stratified by quartiles of LVEDP. Multivariable analysis was performed to evaluate the independent prognostic value of LVEDP on clinical outcomes.

Results: The median [IQR] LVEDP was 18 [12, 24] mmHg. Comparing patients with LVEDP >18 mmHg vs. ≤18 mmHg, the relative risk of death and composite death or MI were 2.0 [CI 1.19, 3.33], p=0.007, and 1.85 [1.23, 2.70], p=0.002, at 30 days, and 1.56 [1.11, 2.22], p=0.009, and 1.45 [1.15, 1.85], p=0.002, at 2 years, respectively. Patients in the highest quartile LVEDP (≥24 mmHg) were at the greatest risk of death at 30 days, a hazard that remained significant for 2 years (Figure). By multivariable analysis LVEDP ≥24 mmHg was an independent predictor of death or MI at 30 days (HR [95%CI] = 1.67 [1.01, 2.75], p=0.04), even after adjustment for baseline LVEF.

Conclusions: An elevated LVEDP is an independent predictor of adverse outcomes in patients with STEMI undergoing primary PCI, even after adjusting for baseline LVEF. Patients with LVEDP ≥24 mmHg are at the greatest risk for early and late mortality.