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# Non Invasive Imaging

## THE UTILIZATION OF NON-INVASIVE ECHOCARDIOGRAPHIC INDICES IN ESTIMATING PULMONARY CAPILLARY WEDGE PRESSURE IN HEART TRANSPLANT PATIENTS

Poster Contributions
Hall C
Saturday, March 29, 2014, 3:45 p.m.-4:30 p.m.

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**Background:** Diastolic echocardiographic indices have been validated as accurate tools in estimating pulmonary capillary wedge pressures (PCWP); however in heart transplant patients there is lack of evidence to support that. We aimed to compare the accuracy of echocardiographic assessment of PCWP in heart transplant recipients.

**Methods:** Between 2007 and 2012, 72 consecutive heart transplant recipients underwent echocardiographic study and right heart catheterization at 1 year after transplantation. Patients with left ventricular ejection fraction < 50% were excluded. Transmitral flow velocity variables were utilized (peak velocity during early (E) and late (A) filling, medial and lateral annular diastolic velocities (e´ medial, e´ lateral). Estimated PCWP was calculated using the following formula (ePCWP = 1.24 * (E /e´ lateral) + 1.9) whereas invasive PCWP (iPCWP) was calculated using pulmonary artery catheter.

**Results:** In our cohort (age, median 56 years (45-63), 57 male (80%), mean EF (63 ± 7%), mean iPCWP was 12 ± 4 mmHg and mean ePCWP was 13 ± 3 mmHg. Strong correlation was noted between iPCWP and E (r=0.5, P=<0.0001), E/e´ lateral (r= 0.53, P=<0.0001), but weak correlation with E/e´ medial (r=0.34, P=0.002). Using linear regression analysis, a strong significant correlation existed between iPCWP and ePCWP (r= 0.53, P=<0.0001).

**Conclusions:** In heart transplant recipients, ePCWP can predict iPCWP, and E/e´ lateral has the strongest correlation among diastolic echocardiographic indices.