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

Poster Contributions
Hall C
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Authors: Mohammed A.R. Chamsi-Pasha, Brock Cookman, Shikhar Saxena, Samer Sayyed, Eugenia Raichlin, University of Nebraska Medical Center, Omaha, NE, USA

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.