**NONINVASIVE ASSESSMENT OF CENTRAL VENOUS PRESSURE USING CONTINUOUS FLOW FROM THE INFERIOR VENA CAVA INTO RIGHT ATRIUM**

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**Background and objectives:** Estimation of right atrial (RA) or central venous pressure (CVP) is a critical component of a comprehensive transthoracic echocardiographic (TTE) examination. We hypothesize that continuous inflow from the inferior vena cava (IVC) into the RA is a surrogate for low/normal CVP and can be reliably imaged in standard echocardiographic parasternal short and right ventricular (RV) inflow views.

**Methods:** We retrospectively studied 200 patients that underwent right heart catheterization (RHC) within 8 hours of TTE between 2012 and 2016 and selected 60 patients in whom the continuous wave Doppler (CWD) beam incidentally interrogated IVC inflow into RA during evaluation of the tricuspid valve (parasternal short and RV inflow view). From these studies, we sought an uninterrupted CWD inflow signal. RA and RV size, RV function, tricuspid regurgitation (TR), left ventricular ejection fraction and IVC size and respirophasic variation were also noted and compared with values obtained on RHC (RA, RV, pulmonary capillary wedge and pulmonary artery pressures).

**Results:**The average time interval between TTE and RHC was 266 ± 151 minutes. Of 60 patients (males = 39 (65%); age 63 ± 14 years), 12 patients (20%) had continuous and 48 (80%) had interrupted CWD inflow signal from IVC into the RA. Of the 12 patients with continuous flow 11 had RA pressure of ≤ 7 mmHg. Similarly, out of 48 patients with intermittent flow RA pressure was > 7 mmHg in 45 and less than ≤ 7 mmHg in 3 patients (Two-sided p-value 0.0001). **Conclusion:** IVC flow pattern can be reliably studied to estimate CVP in standard echocardiographic views. Continuous and interrupted IVC flow predicts normal and elevated RA pressure, respectively.