**INCREMENTAL VALUE OF THE NOVEL MARKER, “ECHOCARDIOGRAPHIC PULMONARY-LEFT ATRIAL RATIO” FOR NON-INVASIVE DETERMINATION OF THE AETIOLOGY IN PULMONARY HYPTERTENSION**

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**Background:** Pulmonary hypertension may be left heart driven (post-capillary) or pulmonary mediated (pre-capillary) as determined by invasive pulmonary arterial catheterisation (PAC) which differentiates between the two. The "echocardiographic Pulmonary to Left Atrial Ratio" (ePLAR) is obtained by dividing tricuspid regurgitation continuous wave Doppler maximal velocity by trans-mitral E/E' ratio (TR Vmax/E-E' ratio).

**Methods:** Patients with a right ventricular systolic pressure>40mmHg were divided into pre-capillary (TPG>12mmHg, PCWP<15mmHg) and post-capillary (PCWP>15mmHg) based on PAC findings. The ePLAR of each group were compared.

**Results:** A total of 70 patients (40 females, mean age 60.2 years) were classified as 35 post-capillary (mean PA 40.0±11.9mmHg, PCWP 26.0±6.7mmHg, TPG 14.5±11.7mmHg), 16 pre-capillary (mean PA 39.4±9.9mmHg, PCWP 11.6±3.2mmHg, TPG 27.8±0±9.7mmHg) and 19 normal. The pre-capillary group had a higher ePLAR than the post-capillary group (0.41±0.15 vs.0.21±0.14, p<0.0001). An ePLAR = 0.29 provided a sensitivity of 81% and specificity of 83% in discriminating between pre and post-capillary patients (AUC = 0.88). This was superior to E', E/E' or TR velocity alone.

**Conclusion:** The novel parameter ePLAR has a high sensitivity and specificity in discriminating between pre vs. post-capillary pulmonary hypertension, provides incremental benefit over existing parameters and may offer value in non-invasive screening for specific pulmonary vasodilator therapies.