

Effect of Pulmonary Hypertension Secondary to Congenital Heart Disease on Right Ventricular Volumes and Function: A Comparative Study between Two Dimensional, Three Dimensional Echocardiograms and Invasive RV Quantification

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سبحانك لا علم لنا
إلا ما علمتنا إنك أنت
العليم العظيم

صدقة الله العظيم

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List of Abbreviations

Abb.	Full term
<i>2D</i>	<i>Two-Dimensional</i>
<i>3D SV i</i>	<i>Three dimensional stroke volume index</i>
<i>3D,RVEDV</i>	<i>Three dimensional right ventricle end diastolic volume</i>
<i>3D,RVESV</i>	<i>Three dimensional right ventricle end systolic volume</i>
<i>3DE</i>	<i>Three Dimensional Echocardiography</i>
<i>6MWD</i>	<i>6-minute walking distance</i>
<i>ALAT</i>	<i>Alanine aminotransferase</i>
<i>ASAT</i>	<i>Aspartate aminotransferase</i>
<i>ASDs</i>	<i>Atrial septal defects</i>
<i>BMPR2</i>	<i>Bone morphogenetic protein receptor 2</i>
<i>BMPR2</i>	<i>Bone morphogenetic protein receptor, type 2</i>
<i>BNP</i>	<i>Brain natriuretic peptide</i>
<i>BSA</i>	<i>Body surface area</i>
<i>CCB</i>	<i>Calcium channel blocker</i>
<i>CCBs</i>	<i>Calcium channel blockers</i>
<i>CHD</i>	<i>Congenital heart disease</i>
<i>CI</i>	<i>Cardiac index</i>
<i>CMR</i>	<i>Cardiac magnetic resonance</i>
<i>CO</i>	<i>Cardiac output</i>
<i>COPD</i>	<i>Chronic obstructive pulmonary disease</i>
<i>CS</i>	<i>Coronary Sinus</i>
<i>CTEPH</i>	<i>Chronic thromboembolic pulmonary hypertension</i>
<i>CTEPH</i>	<i>Chronic thromboembolic pulmonary hypertension</i>
<i>CTPA</i>	<i>Computed tomography pulmonary angiogram</i>
<i>DLCO</i>	<i>Diffusion capacity for carbon monoxide</i>
<i>DPG</i>	<i>Diastolic pressure gradient</i>

List of Abbreviations (cont...)

Abb.	Full term
<i>EACVI</i>	<i>European association of cardiovascular imaging</i>
<i>ECG</i>	<i>Electrocardiogram</i>
<i>EDV</i>	<i>End-diastolic volume</i>
<i>EF</i>	<i>Ejection fraction</i>
<i>EIF2AK4</i>	<i>Eukaryotic translation initiation factor 2 alpha kinase 4</i>
<i>ERAs</i>	<i>Endothelin receptor antagonists</i>
<i>ESV</i>	<i>End- systolic volume</i>
<i>FAC</i>	<i>Fractional Area Change</i>
<i>HIV</i>	<i>Human immunodeficiency virus</i>
<i>HLHS</i>	<i>Hypoplastic left heart syndrome</i>
<i>HPAH</i>	<i>Heritable pulmonary artery hypertension</i>
<i>ICT</i>	<i>Isovolumic contraction time</i>
<i>INR</i>	<i>International normalized ratio</i>
<i>IPAH</i>	<i>Idiopathic pulmonary hypertension</i>
<i>IRT</i>	<i>Isovolumic relaxation time</i>
<i>IVC</i>	<i>Inferior Vena Cava</i>
<i>LA</i>	<i>Left atrial</i>
<i>LAO</i>	<i>Left anterior oblique</i>
<i>LVEDP</i>	<i>Left ventricular end-diastolic pressure</i>
<i>MDCT</i>	<i>Modalities such as computed tomography</i>
<i>MPA</i>	<i>Main Pulmonary Artery</i>
<i>MPAP</i>	<i>Mean pulmonary artery pressure</i>
<i>MR</i>	<i>Magnetic resonance</i>
<i>NO</i>	<i>Nitric oxide</i>
<i>NT-proBNP</i>	<i>N-terminal pro-brain natriuretic peptide</i>
<i>O₂</i>	<i>Oxygen</i>
<i>PA</i>	<i>Pulmonary artery</i>

List of Abbreviations (cont...)

Abb.	Full term
<i>PaCO₂</i>	<i>Arterial carbon dioxide pressure</i>
<i>PaO₂</i>	<i>Arterial oxygen pressure</i>
<i>PAP</i>	<i>Pulmonary artery pressure</i>
<i>PAPm</i>	<i>Mean pulmonary arterial pressure</i>
<i>PASP</i>	<i>PA systolic pressure</i>
<i>PAWP</i>	<i>Pulmonary artery wedge pressure</i>
<i>PCH</i>	<i>Pulmonary capillary haemangiomatosis</i>
<i>PCWP</i>	<i>Pulmonary capillary wedge pressure</i>
<i>PDE-5is</i>	<i>Phosphodiesterase type 5 inhibitors</i>
<i>PH</i>	<i>Pulmonary hypertension</i>
<i>PLAX</i>	<i>Parasternal long axis</i>
<i>PPHN</i>	<i>Persistent PH of the newborn</i>
<i>PR</i>	<i>Pulmonary regurgitant</i>
<i>Pred.</i>	<i>predicted</i>
<i>PSAX</i>	<i>Parasternal short axis</i>
<i>PV</i>	<i>Pulmonary valve</i>
<i>PVOD</i>	<i>Pulmonary veno-occlusive disease</i>
<i>PVR</i>	<i>Pulmonary vascular resistance</i>
<i>PVRi</i>	<i>Pulmonary vascular resistance index</i>
<i>Qp</i>	<i>Pulmonary blood flow</i>
<i>RA</i>	<i>Right atrium</i>
<i>RAA</i>	<i>Right Atrial Appendage</i>
<i>RAO</i>	<i>Right anterior oblique</i>
<i>RAP</i>	<i>Right atrial pressure</i>
<i>RHC</i>	<i>Right heart catheterization</i>
<i>RHC</i>	<i>Right heart catheterization</i>
<i>RV FAC</i>	<i>RV fractional area change</i>
<i>RV MPI</i>	<i>RV myocardial performance index</i>
<i>RV</i>	<i>Right ventricle</i>