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ASSESSMENT OF RIGHT VENTRICULAR SYSTOLIC FUNCTION USING ULTRASOUND SPECKLE TRACKING IMAGING IN PATIENTS WITH PATENT DUCTUS ARTERIOSUS

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Objective To assess right ventricular systolic function in patients with patent ductus arteriosus (PDA) by speckle tracking imaging (STI).

Methods Right ventricular peak systolic global and segmental strain (S), strain rate (SR) were measured respectively in 35 patients with patent ductus arteriosus and 37 healthy controls by STI from the apical four-chamber view, and compared the indexes above among the three groups: the pure PDA group, the PAH group (the PDA patients with pulmonary arterial hypertension), and the controls group.

Results Right ventricular peak systolic strain (S) of basal, mid, apical segment in free wall and the global S were lower in PDA group than the controls group ($p<0.01$), while higher than the PAH group ($p<0.01$); S and SR were significantly lower in PAH group than the controls group ($p<0.01$).

Conclusions STI may be used to objectively evaluate the right ventricular systolic function in patients with PDA. Right ventricular systolic function is decreased in patients of PDA without PAH, and significantly decreased in the patients with PAH.