**Supplemental Table 3**. Studies assessing the value of right ventricular longitudinal strain in heart failure patients

| First Author, Journal, Year | Study population | Sample size (n) | Design | Metrics | Results | Cut-off va |
|---|---|---|---|---|---|---|
| Verhaert D, *Circ Heart Fail*, 2010(1) | Acute decompensated heart failure | 62 | Prospective | RVFWLS | Among all the RV functional indices measured, only the improvement in RFWLS at 48 to 72 hours was associated with lower adverse events | - |
| Guendouz S, *Circ J,* 2012(2) | Clinically stable HFrEF (LVEF 28±8%) outpatients | 104 | Prospective | RV4CLS | RV4CLS and log B-type natriuretic peptide predicted severe adverse events independentlyon other echocardiographic patrameters of RV or LV systolic function | -21 |
| Sade et al, *J Am Soc Echocardiogr*, 2013(3) | Patients treated with CRT | 120 | Prospective | RVFWLS | RV dysfunction was independently associated with the composite outcome of all-cause death, heart transplantation and need of LV assistance. Among RV function parameters, RVFWLS was the most powerful to predict outcome | -18 |
| Motoki et al. *J Am Soc Echocardiogr*, 2014(4) | Stable, HFrEF (LVEF< 35%) outpatients | 171 | Retrospective | RV4CLS[a] | RV4CS showed an independent association with cardiac events (death, hospitalization for heart failure, and heart transplant) regardless of age, LVEF, and E/e' ratio and had greater prognostic power than LVEF | -14. |
| Lisi et al, *JACC Cardiovasc Imaging*, 2015(5) | End-stage heart failure | 27 | Prospective | RVFWLS | RVFWLS was the most accurate parameter that correlatesd with the extent of RV myocardial fibrosis and functional capacity. | _ |
| Iacoviello et al, *Echocardiography*, 2016(6) | Stable, HFrEF (LVEF< 45%) outpatients | 332 | - | RVFWLS RV4CLS | Both RV4CLS and RVFWLS (but not TAPSE, FAC and S-wave velocity) were associated with all-cause mortality during follow-up | RV4CLS RVFWLS= |
| Freed et al, *Circ Cardiovasc Imaging*, 2016(7) | HFpEF | 308 | Prospective | RVFWLS[b] | RVFWLS was independently associated with composite outcome of cardiovascular hospitalization or death | _ |
| Morris et al, *Eur* | Asymptomatic | 642 | Multicenter, | RVFWLS | RV4CLS and RVFWLS were able to detect subtle RV longitudinal systolic abnormalities in a significant | _ |

| | | | | | | |
|---|---|---|---|---|---|---|
| *Heart J Cardiovasc Imaging*, 2017(8) | pts at risk, HFpEF, and HFrEF | | prospective | RV4CLS | proportion of patients with HFrEF and to a lesser extent in HFpEF despite the conventional echocardiographic parameters of RV function were preserved In addition, RV4CLS and RVFWLS were significantly linked to the symptomatic status of the patients. | |
| Seo et al, *Eur Heart J Cardiovasc Imaging*, 2019(9) | Clinically stable outpatients with first diagnosis of dilated cardiomyopathy | 143 | Prospective | RVFWLS RV4CLS | RVFWLS, but not conventional echocardiographic indices of RV function, independently predicted MACE | 16.5 |

All the reported studies used GE Healthcare ultrasound systems and software packages except [a]Syngo Velocity Vector Imagng (Siemens Healthineer, Munich, D), [b]2D Cardiac Performance Analysis v4.5 (TomTec Imaging Systems, Unterschleissen, D)

*Abbreviations*: FAC, right ventricular fractional area change; HFpEF, heart failure and preserved left ventricular ejection fraction; HFrEF, heart failure and reduced left ventricular ejection fraction; LV, left ventricle/ventricular; LVEF; left ventricular ejection fraction; MACE, major adverse cardiac events; TAPSE; tricuspid annular plane systolic excursion; all remaining abbreviations as in Supplemental Table 2

References

1. Verhaert D, Mullens W, Borowski A et al. Right ventricular response to intensive medical therapy in advanced decompensated heart failure. Circulation Heart failure 2010;3:340-6.
2. Guendouz S, Rappeneau S, Nahum J et al. Prognostic significance and normal values of 2D strain to assess right ventricular systolic function in chronic heart failure. Circulation journal : official journal of the Japanese Circulation Society 2012;76:127-36.
3. Sade LE, Ozin B, Atar I, Demir O, Demirtas S, Muderrisoglu H. Right ventricular function is a determinant of long-term survival after cardiac resynchronization therapy. Journal of the American Society of Echocardiography : official publication of the American Society of Echocardiography 2013;26:706-13.
4. Motoki H, Borowski AG, Shrestha K et al. Right ventricular global longitudinal strain provides prognostic value incremental to left ventricular ejection fraction in patients with heart failure. Journal of the American Society of Echocardiography : official publication of the American Society of Echocardiography 2014;27:726-32.

5. Lisi M, Cameli M, Righini FM et al. RV Longitudinal Deformation Correlates With Myocardial Fibrosis in Patients With End-Stage Heart Failure. JACC Cardiovascular imaging 2015;8:514-522.
6. Iacoviello M, Citarelli G, Antoncecchi V et al. Right Ventricular Longitudinal Strain Measures Independently Predict Chronic Heart Failure Mortality. Echocardiography 2016;33:992-1000.
7. Freed BH, Daruwalla V, Cheng JY et al. Prognostic Utility and Clinical Significance of Cardiac Mechanics in Heart Failure With Preserved Ejection Fraction: Importance of Left Atrial Strain. Circ Cardiovasc Imaging 2016;9.
8. Morris DA, Krisper M, Nakatani S et al. Normal range and usefulness of right ventricular systolic strain to detect subtle right ventricular systolic abnormalities in patients with heart failure: a multicentre study. European heart journal cardiovascular Imaging 2017;18:212-223.
9. Seo J, Jung IH, Park JH et al. The prognostic value of 2D strain in assessment of the right ventricle in patients with dilated cardiomyopathy. European heart journal cardiovascular Imaging 2019;20:1043-1050.