



**Figure S1** Representative example of image analysis for a single participant with LV-strain and strain rate graphs in the three directions. LV, left ventricular; 2D, two-dimensional; SA, short-axis; LA, long-axis; PSSR, peak systolic strain rate; PEDSR, peak early diastolic strain rate; PLDSR, peak late diastolic strain rate.

**Table S1** Comparison of ROC curves of strain parameters for diagnosis of HFpEF-CMI

Variables	AUC (95% CI)	Z statistic	P
LV-GRS	0.707 (0.603–0.797)	–	–
LV-GCS	0.708 (0.604–0.798)	vs. LV-GRS: 0.049	vs. LV-GRS: 0.961
LV-GLS	0.731 (0.628–0.818)	vs. LV-GRS: 0.049 vs. LV-GCS: 0.475	vs. LV-GRS: 0.627 vs. LV-GCS: 0.634
RV-GRS	0.624 (0.517–0.723)	vs. LV-GRS: 1.172 vs. LV-GCS: 1.188 vs. LV-GLS: 1.442	vs. LV-GRS: 0.241 vs. LV-GCS: 0.234 vs. LV-GLS: 0.149
RV-GCS	0.621 (0.514–0.720)	vs. LV-GRS: 1.206 vs. LV-GCS: 1.219 vs. LV-GLS: 1.498	vs. LV-GRS: 0.228 vs. LV-GCS: 0.222 vs. LV-GLS: 0.134
RV-GLS	0.566 (0.458–0.669)	vs. LV-GRS: 1.852 vs. LV-GCS: 1.855 vs. LV-GLS: 2.149	vs. LV-GRS: 0.064 vs. LV-GCS: 0.064 vs. LV-GLS: 0.032

Statistical significance was considered achieved at a P value <0.05. ROC, receiver operating characteristic; HFpEF, heart failure with preserved ejection fraction; HF, heart failure; CMI, chronic myocardial infarction; AUC, area under the ROC curve; CI, confidence interval; LV, left ventricular; RV, right ventricular; GRS, global radial strain; GCS, global circumferential strain; GLS, global longitudinal strain.

**Table S2** The reclassification table between different models using the Model 1 as reference model (the cut-off probability for high risk was set as 0.73)

Model 1: LV-GLS	Model 2: LV-GCS					Model 3: LV-GRS				
	Low risk	High risk	% Reclassified	Category NRI (95% CI)	P value	Low risk	High risk	% Reclassified	Category NRI (95% CI)	P value
HFpEF-CMI				Model 2 vs. Model 1: 0.011 (-0.134, 0.156)	0.88				Model 3 vs. Model 1: -0.008 (-0.148, 0.132)	0.91
Low risk	17	6	26			18	5	22		
High risk	4	27	13			4	27	13		
Non-HF-CMI										
Low risk	35	2	5			35	2	5		
High risk	1	0	100			1	0	100		

LV, left ventricular; CI, confidence interval; GRS, global radial strain; GCS, global circumferential strain; GLS, global longitudinal strain; HFpEF, heart failure with preserved ejection fraction; HF, heart failure; CMI, chronic myocardial infarction; NRI, net reclassification improvement.

**Table S3** Comparison of the strains of different gender in the HFpEF-CMI group

Variables	Male (n=46)	Female (n=8)	P
LV-GRS, %	21.98±8.90	26.67±9.34	0.178
LV-GCS, %	-13.86±4.11	-16.00±3.88	0.178
LV-GLS, %	-11.92±3.22	-12.64±4.26	0.581
RV-GRS, %	27.85 (18.59–32.07)	24.92 (23.73–29.02)	0.990
RV-GCS, %	-13.91±3.96	-14.90±2.96	0.504
RV-GLS, %	-22.43 (-24.58 to -19.04)	-25.07 (-27.06 to -15.01)	0.306

Values are mean ± standard deviation or median (interquartile range). Statistical significance was considered achieved at a P value <0.05. HFpEF, heart failure with preserved ejection fraction; HF, heart failure; CMI, chronic myocardial infarction; LV, left ventricular; RV, right ventricular; GRS, global radial strain; GCS, global circumferential strain; GLS, global longitudinal strain.