

Using Magnetic Resonance Imaging for the Assessment of Left Ventricular Mechanical Dyssynchrony in Comparison with Doppler Tissue Imaging

Thesis

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List of abbreviations

%	Percentage
(r)	Pearson's correlation coefficient
12SD-ε	12-segment standard deviation of peak longitudinal strain by speckle tracking
2D	Two dimensional
3D	Three dimensional
ACC	American College of Cardiology
AHA	American Heart Association
Am	Myocardial atrial velocity
ANOVA	Analysis of variance
ASE	American Society of Echocardiography
AV	Atrio-ventricular
AVC	Aortic valve closure
AVO	Aortic valve opening
BIVP	Biventricular Pacing
BP	Blood pressure
BSBL	Basal septal to basal lateral

CCS	Clinical composite score
CHF	Chronic heart failure
CMR	Cardiac Magnetic Resonance Imaging
CMR-TSI	CMR tissue synchronization index
CRT	Cardiac resynchronization therapy
CRT-D	CRT with defibrillator function
CRT-P	CRT with pacemaker function
CTm	Contraction time
CURE	Circumferential uniformity ratio estimate
DCM	Dilated cardiomyopathy
DENSE	Displacement Encoding with Stimulated Echoes
DI	Dyssynchrony index
dP/dtmax	Maximal rate of LV systolic pressure rise
DTI	Doppler tissue imaging
ECG	Electrocardiogram
ECHO	Echocardiography
EF	Ejection fraction

Em	Myocardial early diastolic velocity
EMT	Electromechanical coupling time
EROA	Effective regurgitant orifice area
ESC	European Society of Cardiology
ESPVR	End-systolic pressure–volume relationship
ESVR	End-systolic volume reduction
GDMT	Guideline-directed medical therapy
GE	General Electric
HF	Heart failure
HFSA	The Heart Failure Society of America
ICD	Implantable cardioverter defibrillator
ICM	Ischemic cardiomyopathy
IFF	Internal flow fraction
IVCD	Intraventricular conduction delay
IVMD	Inter-ventricular mechanical delay
LBB	Left bundle branch
LBBB	Left bundle branch block
LV	Left ventricle

LVEDD	Left ventricular end-diastolic dimension
LVEDV	Left ventricular end-diastolic volume
LVEF	Left ventricular ejection fraction
LVESD	Left ventricular end-systolic dimension
LVESV	Left ventricular end-systolic volume
LVMD	Left ventricular mechanical dyssynchrony
LVP	Left ventricular pacing
LVPEP	Left ventricular pre-ejection period
MHz	Mega Hertz
ml	Milliliter
MRI	Magnetic Resonance Imaging
Msec	Milliseconds
MT	Myocardial tagging
NYHA	New York Heart Association
RBB	Right bundle branch
RBBB	Right bundle branch block
RTm	Myocardial relaxation time
RV	Right ventricular

RVA	Right ventricular apex
RVPEP	Right ventricular pre-ejection period
S3	Third heart sound
SD	Standard deviation
SDI	Systolic dyssynchrony index
SENC	Strain-encoded
Sm	Myocardial systolic velocity
SPWMD	Septal-to-posterior wall motion delay
SRI	Strain rate imaging
Tmsv	Time to minimal systolic volume
T onset	Difference in mechanical activation between two segments
T peak	Difference in time to peak contraction between two segments
TPS-SD	Standard deviation of the averaged time-to-peak-strain
Ts	Time to peak systolic velocity
Ts-SD	Mechanical dyssynchrony index by Doppler tissue imaging
TSI	Tissue Synchronization Imaging