

# Correlation between non-invasive myocardial work indices and main parameters of systolic and diastolic function: results from the EACVI NORRE study

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Received 9 July 2019; editorial decision 9 July 2019; accepted 13 July 2019; online publish-ahead-of-print 13 August 2019













**Table 4** Univariable and multivariable analysis for GWW

Variables	Univariable analysis		Multivariable analysis	
	Coefficient	P	Standardized $\beta$ -coefficient	P
SBP (mmHg)	0.12	0.07		
EDV (mL)	0.04	0.5		
ESV (mL)	<b>0.14</b>	<b>0.03</b>		
EDV indexed (mL/m <sup>2</sup> )	-0.008	0.9		
ESV indexed (mL/m <sup>2</sup> )	0.12	0.06		
EF (%)	<b>-0.17</b>	<b>0.01</b>	<b>-0.14</b>	<b>0.03</b>
LV mass indexed (g/m <sup>2</sup> )	0.03	0.6		
SV indexed (mL/m <sup>2</sup> )	0.05	0.4		
CO (mL/min)	0.04	0.5		
CI (mL/min/m <sup>2</sup> )	-0.02	0.7		
Septal MAPSE (mm)	0.01	0.8		
Lateral MAPSE (mm)	-0.01	0.8		
Septal s' wave (cm/s)	-0.08	0.2		
Lateral s' wave (cm/s)	-0.01	0.8		
LAV (mL)	0.11	0.1		
LAV indexed (mL/m <sup>2</sup> )	0.06	0.3		
E wave (cm/s)	-0.11	0.1		
A wave (cm/s)	-0.03	0.5		
Deceleration time (ms)	0.07	0.2		
E/A ratio	-0.05	0.4		
Septal e' wave (cm/s)	-0.12	0.05		
Lateral e' wave (cm/s)	-0.07	0.9		
E/e' ratio	-0.03	0.6		
PASP (mmHg)	-0.04	0.6		
Tei index	<b>0.24</b>	<b>&lt;0.001</b>	<b>0.17</b>	<b>0.01</b>
Ea (mmHg/mL)	-0.05	0.4		
Ees (mmHg/mL)	-0.05	0.4		
Ea/Ees	-0.04	0.5		
GLS (%)	0.09	0.1		
GCS (%)	0.03	0.6		
GRS (%)	-0.4	0.6		

P-values <0.05 are set in bold.

CI, cardiac index; CO, cardiac output; Ea, arterial elastance; EDV, end-diastolic volume; Ees, end-systolic elastance; EF, ejection fraction; ESV, end-systolic volume; GCS, global circumferential strain; GCW, global constructive work; GLS, global longitudinal strain; GRS, global radial strain; GWE, global work efficiency; GWI, global work index; GWW, global work waste; IQR, interquartile range; LAV, left atrial volume; LV, left ventricle; MAPSE, mitral annular plane systolic excursion; PASP, pulmonary arterial systolic pressure; SD, standard deviation; SBP, systolic blood pressure; SV, stroke volume.

**Table 5** Univariable and multivariable analysis for GWE

Variables	Univariable analysis		Multivariable analysis	
	Coefficient	P	Standardized $\beta$ -coefficient	P
SBP (mmHg)	0.004	0.9		
EDV (mL)	-0.02	0.6		
ESV (mL)	<b>-0.15</b>	<b>0.03</b>		
EDV indexed (mL/m <sup>2</sup> )	0.01	0.8		
ESV indexed (mL/m <sup>2</sup> )	<b>-0.14</b>	<b>0.04</b>		
EF (%)	<b>0.20</b>	<b>0.004</b>	<b>0.18</b>	<b>0.009</b>
LV mass indexed (g/m <sup>2</sup> )	0.01	0.8		
SV indexed (mL/m <sup>2</sup> )	-0.03	0.6		
CO (mL/min)	-0.02	0.7		
CI (mL/min/m <sup>2</sup> )	0.03	0.6		
Septal MAPSE (mm)	0.009	0.9		
Lateral MAPSE (mm)	0.02	0.7		
Septal s' wave (cm/s)	0.08	0.2		
Lateral s' wave (cm/s)	-0.008	0.9		
LAV (mL)	-0.07	0.3		
LAV indexed (mL/m <sup>2</sup> )	-0.02	0.7		
E wave (cm/s)	0.11	0.9		
A wave (cm/s)	0.02	0.7		
Deceleration time (ms)	-0.09	0.1		
E/A ratio	0.05	0.4		
Septal e' wave (cm/s)	0.12	0.07		
Lateral e' wave (cm/s)	0.03	0.6		
E/e' ratio	0.02	0.7		
PASP (mmHg)	0.03	0.7		
Tei index	<b>-0.26</b>	<b>&lt;0.0001</b>	<b>-0.20</b>	<b>0.004</b>
Ea (mmHg/mL)	0.07	0.2		
Ees (mmHg/mL)	0.07	0.3		
Ea/Ees	0.08	0.2		
GLS (%)	<b>-0.019</b>	<b>0.003</b>		
GCS (%)	-0.06	0.4		
GRS (%)	0.06	0.4		

P-values <0.05 are set in bold.

CI, cardiac index; CO, cardiac output; Ea, arterial elastance; EDV, end-diastolic volume; Ees, end-systolic elastance; EF, ejection fraction; ESV, end-systolic volume; GCS, global circumferential strain; GCW, global constructive work; GLS, global longitudinal strain; GRS, global radial strain; GWE, global work efficiency; GWI, global work index; GWW, global work waste; IQR, interquartile range; LAV, left atrial volume; LV, left ventricle; MAPSE, mitral annular plane systolic excursion; PASP, pulmonary arterial systolic pressure; SD, standard deviation; SBP, systolic blood pressure; SV, stroke volume.

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