

Appendix 1

In comparison to preoperative measurements, the responsive group exhibited significant reductions in left ventricular end-diastolic volume (LVEDV) (196.44 ± 42.78 vs. 99.68 ± 32.32 mL, $P < 0.001$), LVESV (151.04 ± 37.66 vs. 50.80 ± 22.62 mL, $P < 0.001$), Yu-index (43.68 ± 19.39 vs. 65.52 ± 27.60 ms, $P = 0.001$), and SPWMD (84.80 ± 47.45 vs. 179.20 ± 93.27 ms, $P < 0.001$) at 6 months after CRT. Furthermore, LVEF demonstrated a notable improvement ($23.44\% \pm 5.82\%$ vs. $54.04\% \pm 7.81\%$, $P < 0.001$). On the other hand, the non-responsive group did not show statistically significant differences in the mentioned parameters between postoperative and preoperative values. Compared to the non-responsive group, the responsive group exhibited significantly smaller LVEDV (196.44 ± 42.78 vs. 299.92 ± 111.96 mL, $P = 0.009$) and LVESV (151.04 ± 37.66 vs. 240.83 ± 92.65 mL, $P = 0.007$) prior to CRT. However, there were no statistically significant differences in the remaining parameters between the two groups (Table S1).

In comparison to preoperative measurements, the responsive group demonstrated a significant reduction in PSD (69.44 ± 22.38 vs. 141.44 ± 47.29 ms, $P < 0.001$) at 6 months after CRT. Conversely, the non-responsive group displayed a decrease without statistical significance in PSD compared to pre-CRT values (119.17 ± 33.40 vs. 139.67 ± 46.28 ms, $P = 0.210$).

In comparison to preoperative measurements, the responsive group demonstrated a significant increase in absolute GLS at 6 months after CRT ($12.96\% \pm 2.87\%$ vs. $6.48\% \pm 1.76\%$, $P < 0.001$). Conversely, the non-responsive group exhibited an increase in absolute GLS without statistical significance compared to pre-CRT values ($5.67\% \pm 1.58\%$ vs. $4.50\% \pm 1.57\%$, $P = 0.073$).

In comparison to the non-responsive group, the responsive group showed slightly longer PSD without statistical significance before CRT (141.44 ± 47.29 vs. 139.67 ± 46.28 ms, $P = 0.631$).

In comparison to the non-responsive group, the responsive group exhibited greater absolute value of GLS with statistical significance before CRT ($6.48\% \pm 1.76\%$ vs. $4.50\% \pm 1.57\%$, $P < 0.001$) (Table S2).

Table S1 Comparison of conventional echocardiographic parameters before and after CRT

Characteristics	Responsive group n=25		Non-responsive group n=12		P	P ^a	P ^b
	Before CRT	After CRT	Before CRT	After CRT			
LVEDV (mL)	196.44±42.78	99.68±32.32	299.92±111.96	280.50±90.08	0.009	<0.001	0.060
LVESV (mL)	151.04±37.66	50.80±22.62	240.83±92.65	226.58±80.54	0.007	<0.001	0.075
LVSV (mL)	45.28±12.67	50.36±16.33	59.17±23.71	67.25±28.30	0.078	0.107	0.083
LVEF (%)	23.44±5.82	54.04±7.81	19.50±5.76	23.67±5.82	0.065	<0.001	0.055
Yu-index (ms)	65.52±27.60	43.68±19.39	65.00±24.40	51.92±15.46	0.956	0.001	0.054
SPWMD (ms)	179.20±93.27	84.80±47.45	189.17±119.50	145.00±92.59	0.783	<0.001	0.138

Data are expressed as mean ± SD. P, comparison between the two groups before CRT; P^a, comparison between pre- and post-CRT in the responsive group; P^b, comparison between pre- and post-CRT in the non-responsive group. CRT, cardiac resynchronization therapy; LVEDV, left ventricular end-diastolic volume; LVESV, left ventricular end-systolic volume; LVSV, left ventricular stroke volume; LVEF, left ventricular ejection fraction; Yu-index, mechanical dyssynchrony index; SPWMD, septal-posterior wall motion delay; SD, standard deviation.

Table S2 Comparison of STI parameters between responsive and non-responsive groups before CRT

Characteristics	Responsive group n=25		Non-responsive group n=12		P	P ^a	P ^b
	Before CRT	After CRT	Before CRT	After CRT			
PSD (ms)	141.44±47.29	69.44±22.38	139.67±46.28	119.17±33.40	0.631	<0.001	0.210
GLS (%)	6.48±1.76	12.96±2.87	4.50±1.57	5.67±1.58	<0.001	<0.001	0.073

Data are expressed as mean ± SD. P, comparison between the two groups before CRT; P^a, comparison between pre- and post-CRT in the responsive group; P^b, comparison between pre- and post-CRT in the non-responsive group. STI, speckle tracking imaging; CRT, cardiac resynchronization therapy; PSD, peak strain dispersion; |GLS|, absolute value of global longitudinal strain.