SUPPLEMENTAL MATERIAL

SD = standard deviation; GLS = LV global longitudinal strain; GLSR = LV global longitudinal strain rate;

GCS = LV global circumferential strain; RVFWS = RV free wall peak longitudinal strain; $EDSR_L$ = LV end-

diastolic longitudinal strain rate; LAS = left atrial strain

Table S1. Left ventricular wall-motion abnormalities are diffusely distributed in MIS-C.

		Wall motion score index	p-value*
Global LV, median [IQI]		1.58 [1.31-1.97]	
LV segments			0.18
	Basal	1.67 [1.50-2.00]	
	Mid-cavity	1.67 [1.12-2.00]	
	Apical	1.50 [1.25-2.00]	
Coronary artery territories			0.53
	LAD	1.75 [1.29-2.00]	
	RCA	1.60 [1.30-2.00]	
	LCX	1.60 [1.20-2.00]	

Left ventricular (LV) segmental and regional wall motion analyzed according to the 17-segment model in N=43 MIS-C cases. The wall motion score index can range from 1 (normal thickening/excursion) to 5 (aneurysmal). *Kruskal-Wallis test.

IQI = interquartile interval; LAD = left anterior descending; RCA = right coronary artery; LCX = left circumflex artery

Table S2. Relationship between absolute levels of plasma cytokines and myocardial deformation.

		GLS		GCS		RVFWS		LAS	
	N	r	p-value	r	p-value	r	p-value	r	p-value
ln(IFNγ)	28	-0.05	0.814	-0.01	0.978	0.25	0.236	-0.06	0.759
ln(IL-10)	28	0.09	0.659	-0.06	0.778	0.20	0.341	-0.05	0.809
ln(IL-6)	28	-0.19	0.320	-0.16	0.423	0.14	0.499	-0.26	0.183
ln(IL-8)	28	-0.36	0.061	-0.23	0.247	-0.14	0.519	-0.32	0.098
ln(TNFα)	28	-0.16	0.413	-0.19	0.338	-0.01	0.974	-0.25	0.202

Pearson correlation coefficients (**r**) testing the association between strain parameters and log-transformed absolute values of individual plasma cytokine levels among MIS-C cases with pre-treatment samples (N=28)

GLS = LV global longitudinal strain; GCS = LV global circumferential strain; RVFWS = RV free wall longitudinal strain; LAS = left atrial strain

No estimates met criteria for statistical significance based on the Benjamini-Hochberg critical value for each strain parameter.