

SUPPLEMENTAL MATERIAL

Supplemental Table 1

Emotional Stressors	Physical Stressors
Sudden death of daughter	Fall and head Injury
Argument with neighbour	Walking to car against a strong wind
Bereavement	Scottish country dancing
Work deadlines	Alcohol withdrawal
Dispute with work colleagues	Non-infective exacerbation of COPD
Stress of selling house	Fell over while skiing
Carer for husband	
Witnessed cardiac arrest	
Bridge game re-arranged	
Public speaking	
Singing in choir	
Had sex with ex-partner	
Infidelity	
Chronic, multiple stresses	
Looking after grandchildren full time	

Supplemental Table 1. Stressor events in the takotsubo patients grouped by emotional or physical upset.

COPD, chronic obstructive pulmonary disease

Supplemental Table 2

	Patients with Takotsubo Cardiomyopathy (Acute) n=55	Patients with Takotsubo Cardiomyopathy (5 Months) n=48	Matched control subjects n=51	p value Acute vs Control	p value 5 Months vs Control	p value Acute vs 5-Month Follow-up
Native T2* (ms)						
Ballooning Segments	27.6±0.65	23.9±0.83	24.1±1.01	0.004	0.88	<0.001
Non-Ballooning Segments	26.4±0.58	23.8±0.68	24.1±0.92	0.04	0.75	0.001
Whole left ventricle	26.6±0.51	23.6±0.60	23.9±0.79	0.004	0.64	<0.001
Basal	25.5±0.67	23.5±0.79	24.2±1.03	0.27	0.62	0.01
Mid-cavity	27.7±0.61	23.8±0.73	24.9±0.93	0.01	0.31	<0.001
Apical	26.7±0.73	22.9±0.88	21.8±1.12	<0.001	0.42	<0.001
T2* Post USPIO (ms)						
Ballooning Segments	13.2±0.47	11.7±0.61	13.5±0.76	0.68	0.06	0.03
Non-Ballooning Segments	13.1±0.42	12.6±0.47	13.5±0.69	0.57	0.27	0.19
Whole left ventricle	13.3±0.39	12.2±0.46	13.4±0.61	0.81	0.11	0.02

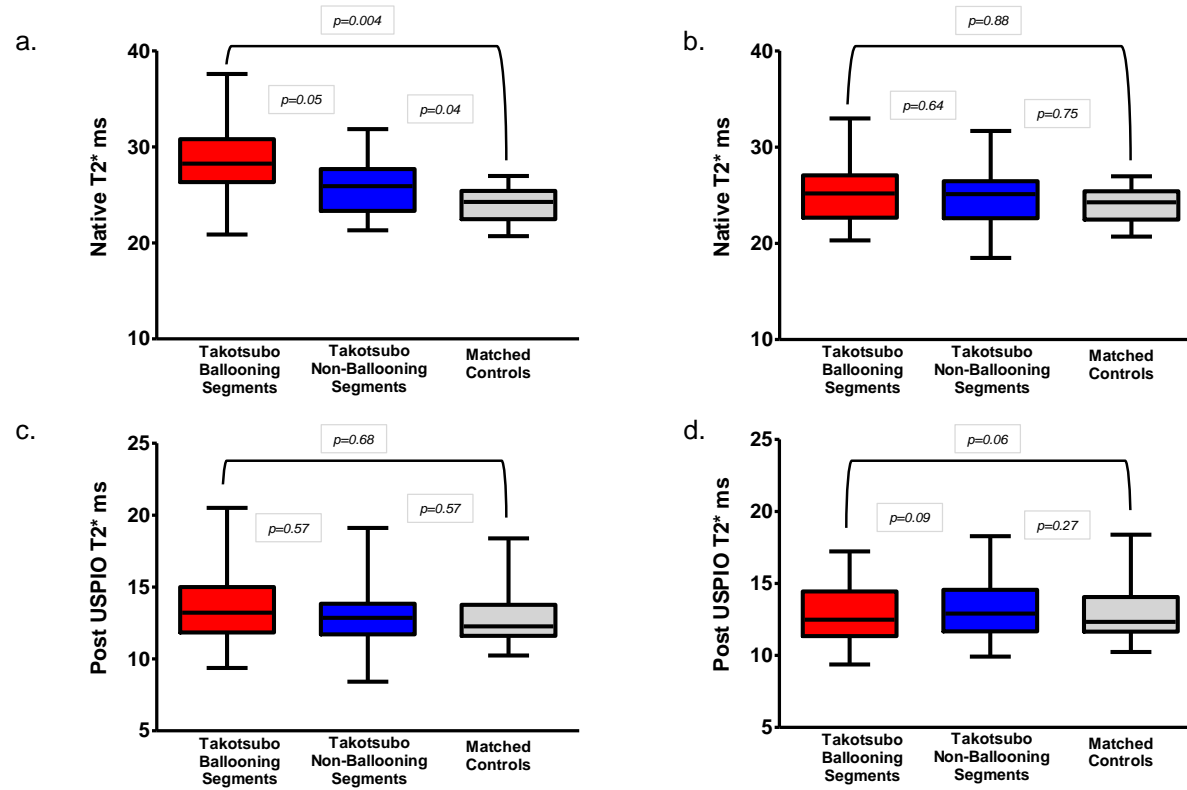
Basal	13.2±0.45	12.2±0.55	13.9±0.69	0.42	0.06	0.14
Mid-cavity	13.9±0.42	12.6±0.49	13.9±0.65	0.92	0.13	0.01
Apical	12.3±0.44	11.2±0.50	12.1±0.68	0.83	0.31	0.03

Supplemental Table 2. Native and post-USPIO T2* for Takotsubo patients at acute presentation and at follow-up compared to controls.

p values for comparisons were calculated using *t*-tests with degrees of freedom estimated by the Satterhwaite method

USPIO, ultrasmall superparamagnetic particles of iron oxide

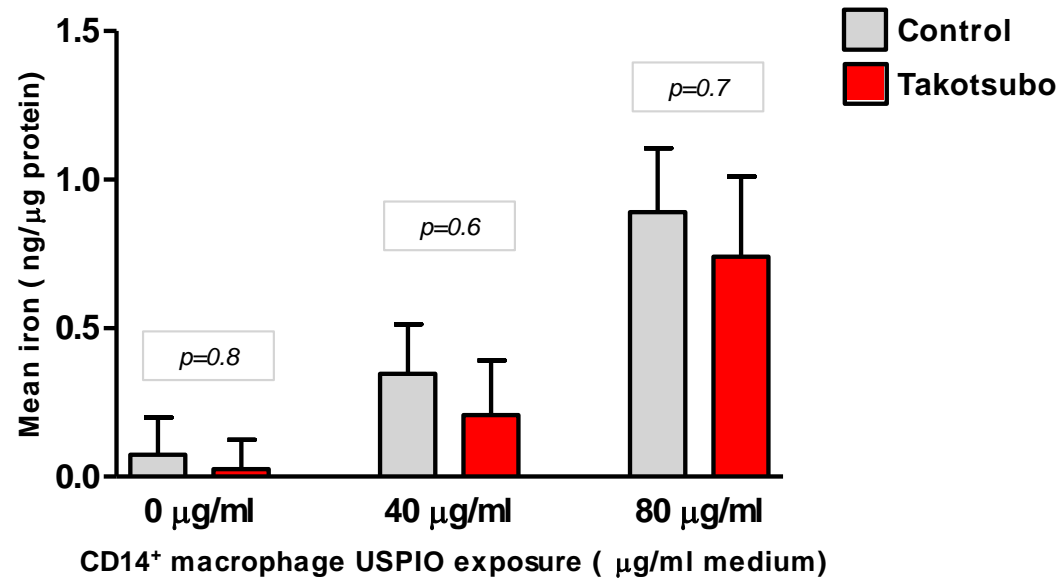
Supplemental Figure 1.



Supplemental Figure 1. Native T2* in the myocardium in ballooning and non-ballooning segments versus matched controls a- at acute presentation and b – at follow-up and Post USPIO T2* in the myocardium in ballooning and non-ballooning segments versus matched controls

c- at acute presentation and d – at follow-up Data shown as median, 25th and 75th centiles and maximum and minimum (whiskers); USPIO,
ultrasmall superparamagnetic particles of iron oxide

Supplemental Figure 2



Supplemental Figure 2. Mean USPIO (Ferumoxytol; AMAG Pharmaceuticals, Waltham, MA, USA) uptake after 24hrs exposure of human-derived macrophages differentiated *ex-vivo* from peripheral CD14⁺ monocytes using autologous serum. Despite a clear dose dependent increase in USPIO uptake ($p < 0.001$), there were no differences between acute takotsubo and control at any given USPIO concentration exposure. USPIO, ultrasmall superparamagnetic particles of iron oxide