

Supplementary Online Content

Shi S, Qin M, Shen B, et al. Association of cardiac injury with mortality in hospitalized patients with COVID-19 in Wuhan, China. *JAMA Cardiol*. Published online March 25, 2020. doi:10.1001/jamacardio.2020.0950

eTable. Baseline characteristics of 229 excluded patients with COVID-19.

eFigure 1. Distribution of hs-TNI.

eFigure 2. Representative electrocardiogram performance in three patients with cardiac injury.

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable. Baseline characteristics of 229 excluded patients with COVID-19

Characteristics	All Patients (n = 229)
Age (yrs), Median (range)	45 (22-90)
Female, n (%)	130 (56.8)
Signs and symptoms at admission, n (%)	
Fever	193 (84.3)
Cough	72 (31.4)
Shortness of breath	51 (22.3)
Fatigue	34 (14.8)
Sputum production	25 (10.9)
Muscle ache	19 (8.3)
Diarrhea	13 (5.7)
Chest pain	8 (3.5)
Sore throat	6 (2.6)
Rhinorrhea	6 (2.6)
Headache	4 (1.7)
Chronic medical illness, n (%)	
Hypertension	55 (24.0)
Diabetes	17 (7.4)
COPD	8 (3.5)
Coronary heart disease	4 (1.7)
Cerebrovascular disease	4 (1.7)
Chronic heart failure	3 (1.3)
Chronic renal failure	2 (0.9)
Hepatitis B infection	2 (0.9)
Cancer	1 (0.4)
Pregnancy	1 (0.4)

yrs =years; COPD = chronic obstructive pulmonary disease.

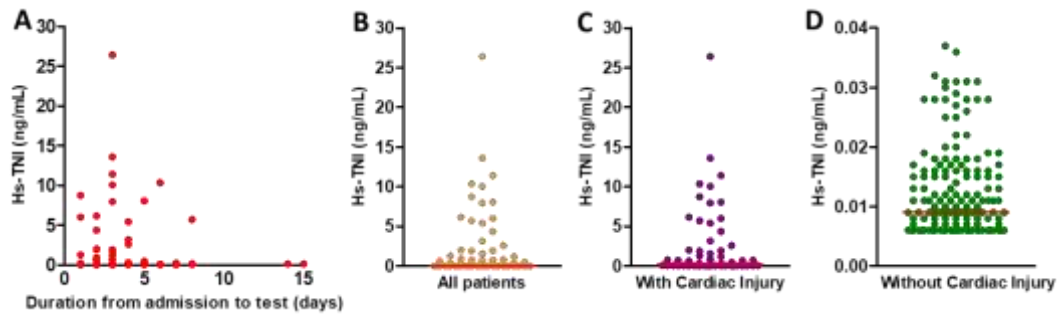


Figure 1. Distribution of hs-TNI. Distribution of hs-TNI based on detection time from hospitalization in all included patients (A), and the full distribution as a scatter plot in all patients (B), patients with (C) and without cardiac injury (D). The red line (B-D) represents the position of the median. Hs-TNI = High-sensitivity troponin I.

Patient 1

Male, 73 years old

Feb 1: hs-TNI, 6.159 ng/mL

Feb 1: ECG

I, avL lead: T wave inversion

III, avF lead: Q wave, T wave inversion

II, V2-V6 lead: ST depression, T wave inversion



Patient 2

Male, 47 years old

Feb 3: hs-TNI, 0.135 ng/mL

Feb 2: ECG

III and avF lead, T wave inversion

V1-V6 lead, T wave inversion or depression



Patient 3

Female, 76 years old

Feb 6: hs-TNI, 0.159 ng/mL

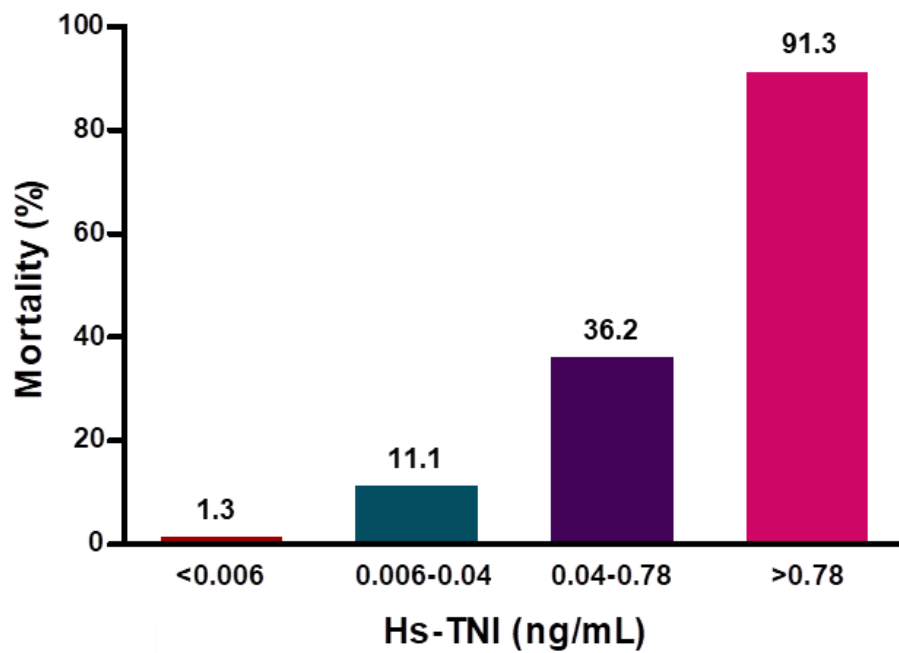
Feb 6: ECG

I, II, III, avF, V3-V6 lead: T wave inversion

avL lead: T wave depression



eFigure 2. Representative electrocardiogram performance in three patients with cardiac injury. Electrocardiogram showed myocardial ischemia-like phenomenon in pairs of leads, including ST segment depression, T wave depression and inversion, and Q wave formation. Red arrow represents myocardial ischemia-like ECG changes. Hs-TNI = High-sensitivity troponin I; ECG= electrocardiogram.



	<0.006	0.006-0.04	0.04-0.78	>0.78
No. of events	3	12	21	21
No. of patients	227	108	58	23

eFigure 3. Mortality of patients at different concentrations of hs-TNI. Higher mortality was accompanied by higher hs-TNI concentrations. The thresholds of hs-TNI selected are based on the reference value, <0.006 ng/mL is the lowest value in our hospital laboratory, 0.006-0.04 ng/mL is the biological reference interval, >0.04 ng/mL indicating cardiac injury, and >0.78 ng/mL suggesting myocardial infarction is possible. Hs-TNI = High-sensitivity troponin I.