

CASE REPORT

A Rare Case of Fulminant Myocarditis Caused by Epstein-Barr Virus Infection in a Middle-Aged Man

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ABSTRACT

Background: Fulminant myocarditis (FM) is a highly lethal syndrome of abrupt, diffuse cardiac inflammation that precipitates rapid-onset hemodynamic collapse. FM caused by Epstein-Barr virus (EBV) is rare and infrequently reported.

Methods: We reported a case of EBV-related FM in a man with respiratory and circulatory failure.

Results: The clinical diagnosis was made based on the patient's signs, ECG, ECHO, and significantly elevated levels of inflammatory factors and myocardial injury markers. The etiology was confirmed by mNGS detection of EBV DNA. The patient was successfully treated with VA-ECMO combination with medication therapy.

Conclusions: The risk of FM precipitated by EBV infection should not be underestimated. Prompt recognition, targeted therapy, and early circulatory support may avert fatal outcomes.

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Supplementary Data

Table S1. Results of myocardial injury markers in patients with periodic follow-up.

Laboratory test	Reference range	Time								
		1th month	2th month	3th month	4th month	5th month	6th month	7th month	8th month	9th month
CK-Mbmass (μg/L)	0.1 - 4.94	1.35	1.35	0.95	1.61	1.1	0.85	0.78	0.85	1.07
MYO (μg/L)	25 - 72	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	29.1
TnT-HSST (μg/L)	0 - 0.014	0.009	0.010	0.010	0.011	0.010	0.012	0.013	0.012	0.012

CK-Mbmass: creatine kinase isoenzyme, MYO: myoglobin, TnT-HSST: high-sensitivity cardiac Troponin.

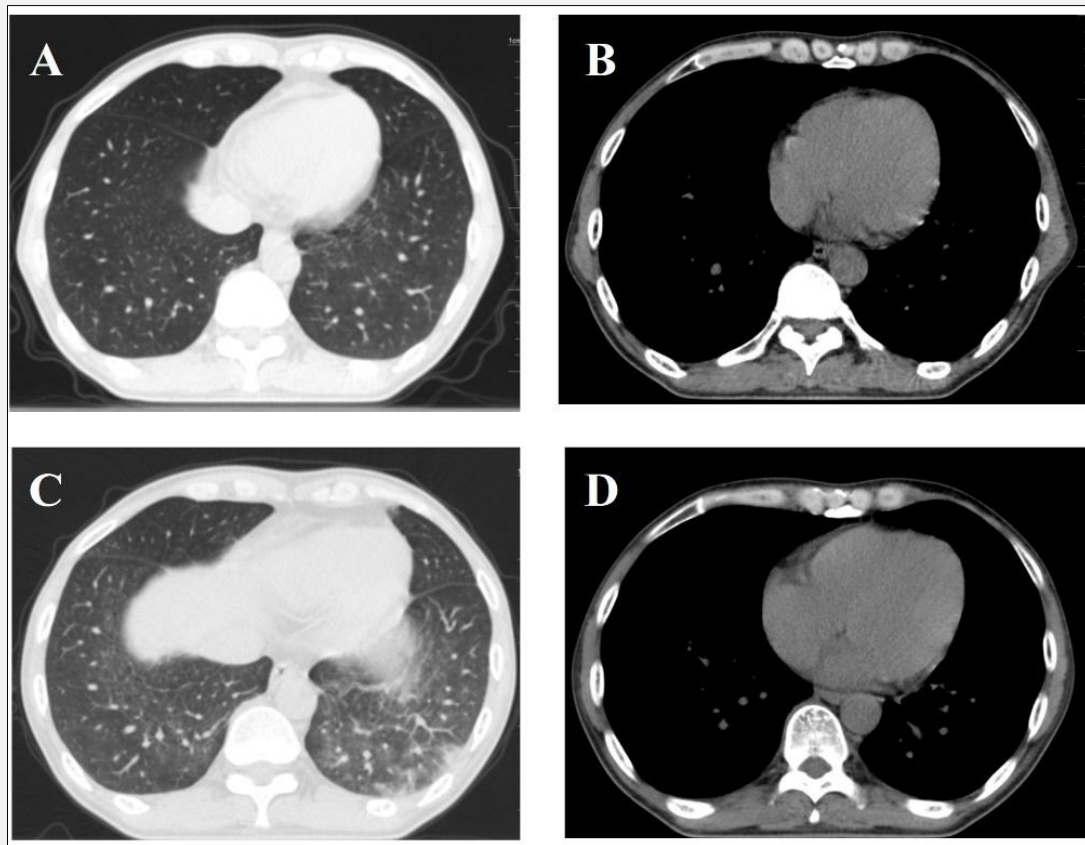


Figure S1. Chest imaging findings during the patient's treatment.

Panel A and B: On the day of admission, the patient's computed tomography (CT) scan of the chest showed no abnormalities.

Panel C and D: On the 4th day of admission, the patient's CT scan of the chest showed bilateral pulmonary patchy shadow, especially in the left lower lung.

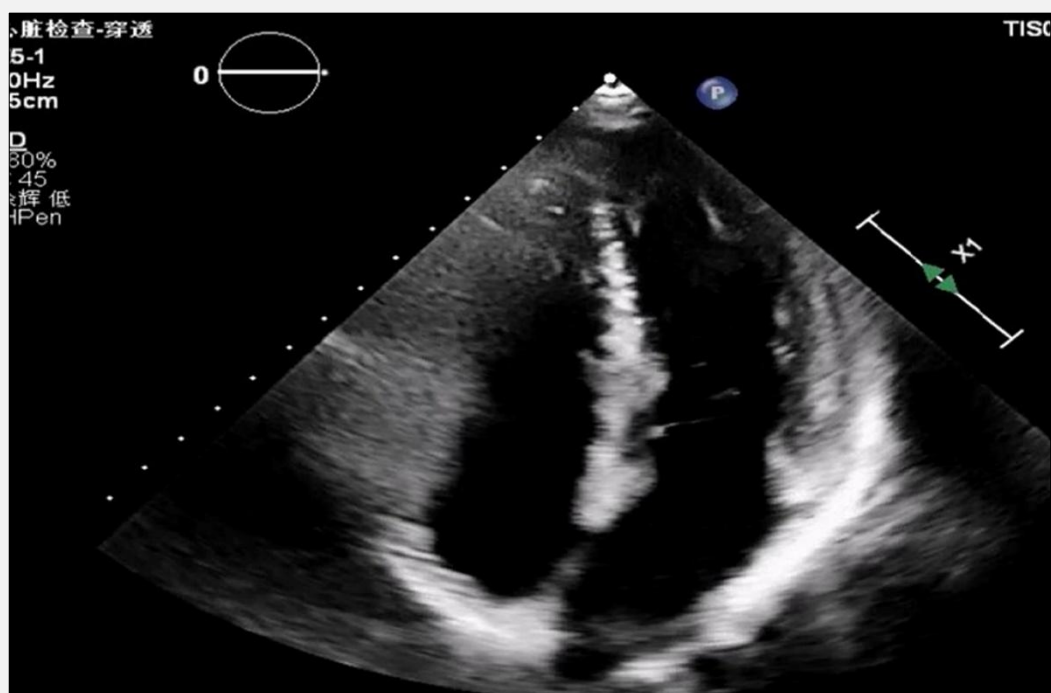


Figure S2. Echocardiogram of the patient at the 9th month of follow-up.