

A Case of Constrictive Pericarditis after COVID-19 Infection

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Introduction: Although the respiratory manifestation of COVID-19 infection is common, several cardiac involvements have also been reported. We report a case of pericardial effusion after COVID-19 infection.

Case report: A 71-year-old male with medical history of end stage renal disease, who had been on hemodialysis for 10 years, was referred to our hospital with COVID-19 infection confirmed by real-time polymerase chain reaction (RT-PCR). He presented with worsening dyspnea during hemodialysis sessions. A chest x-ray revealed boot-shaped cardiomegaly (Figure 1). His initial echocardiogram showed circumferential pericardial effusion, anterior side 34mm, posterior 28mm. He was hemodynamically stable during resting, but showed intradialytic hypotension. In view of the patient's symptoms and the echocardiographic findings, pericardiocentesis was performed, with removal of 380cc yellow turbid thick fluid. The initial fluid analysis revealed exudate per Light's criteria. ADA levels was 143 but, TB PCR, AFB stain of pericardial fluid and IGRA test showed all negative. Repeated pericardiocentesis was done because of recurrence of pericardial effusion and prolonged intradialytic hypotension due to constrictive pericarditis. On follow up, ADA level decreased, fluid remained neutrophil dominant, which findings were highly suggestive of Post COVID-19 induced pericardial effusion. (table 1) After 1 month, follow up echocardiogram showed still features of constrictive pericarditis. As his hemodynamic status remained stable during dialysis and echocardiographic findings improved, pericardiectomy was not performed.

Discussion: Previous studies suggested elevated pericardial ADA level may be a sign of pericardial effusion after COVID-19 infection. Tuberculosis pericarditis, another differential diagnosis of elevated ADA, was excluded due to the negative results in other diagnostic tests and improved follow-up pericardial effusion analysis. Accordingly, we report a case of pericardial effusion after COVID-19 infection, suggesting that COVID-19 infection may be considered as the cause of pericardial effusion. Follow up of pericardial effusion may be helpful to differentiate diagnosis.



	2022-04-29	2022-05-24	2022-06-22
Appearance & Color	Yellow turbid	Straw turbid	Yellow clear
Total Nucleated cell count (/μL)	92,800	290	80
Neutrophil (%)	93	34	18
Lymphocyte (%)	2	25	30
Protein (g/dL)	4.5	1.5	2.7
Albumin (g/dL)	2.3	0.8	1.4
LDH (U/L)	27268	78	114
ADA (U/L)	143.5	6.2	12.2
Glucose (mg/dL)	<5	124	119