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vaccine-induced myocarditis with immunosuppressive therapy including anakinra and parental corticosteroids, or delayed COVID-19 myocarditis with supportive care. He was later extubated and successfully decannulated from 5 days on ECMO on day 11. Cardiac magnetic resonance imaging on day 12 showed elevated T1 and T2 values consistent with ongoing myocardial edema, but normal ventricular volume, thickness and function.

**Summary:** This is a case of fulminant myocarditis whereby the aetiology is unclear considering recent COVID-19 infection and mRNA vaccination. This raises questions as to the ideal timing of vaccine, type of vaccine and requirement for cardiac screening prior to vaccination in patients who have recovered from COVID-19.

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#### Analysis Paralysis: Transition to HeartMate 3 Left Ventricular Assist Device Despite Multiple Complications from COVID-19

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**Introduction:** We present a case of a 39 year old male with nonischemic cardiomyopathy who was successfully bridged to HeartMate3 Left Ventricular Assist Device (LVAD) despite multiple life threatening complications secondary to Covid-19.

**Case Report:** 39-year-old male with past medical history notable for tobacco abuse and recently diagnosed non-ischemic cardiomyopathy presented to our institution with NYHA Class IV symptoms and was found to be in cardiogenic shock. On admission Covid-19 PCR was negative. He initially responded to the initiation of inotropic support and aggressive diuresis with normalization of his end-organ function and improvement in his symptoms over three days. He suddenly experienced rapid hemodynamic decline necessitating escalation of inotropic and mechanical circulatory support with VA ECMO and Impella 5.5. On that day, his wife felt unwell and was found to be positive for Covid-19. The patient's Covid-19 PCR was repeated and also positive. He underwent treatment with Regeneron. His hospital course was further complicated by multiple sequelae of Covid-19 including pneumonia, acute renal failure necessitating hemodialysis (HD), and Guillain Barre Syndrome (GBS) presenting with bilateral ascending paralysis extending to his hip flexors, improved with intravenous immune globulin (IVIG) therapy. Over a period of two weeks, he demonstrated improvement and was weaned from VA ECMO to Impella 5.5. Unfortunately, he was unable to tolerate weaning the Impella 5.5. He was aggressively rehabilitated. After extensive multidisciplinary discussion, LVAD implantation was recommended to the patient. Following insertion of a HeartMate3 LVAD, the patient demonstrated renal recovery and ongoing improvement in physical ability. He was discharged to an acute rehabilitation facility and was subsequently discharged home. He will be monitored for listing for cardiac transplantation pending abstinence from tobacco use.

**Summary:** Covid-19 can present with multiple life threatening complications that can add novel challenges to the management of patients with stage D cardiomyopathy. Despite complications of acute renal failure and paralysis secondary to GBS from Covid-19, our patient was successfully supported with temporary mechanical circulatory support, aggressively rehabilitated, and transitioned to a durable HeartMate 3 LVAD.

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#### Severe Isolated Cardiomyopathy Requiring Heart Transplant Following COVID-19 Infection and Subsequent Vaccination

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**Introduction:** Cardiomyopathy is a known complication associated with COVID-19, and 7% of all COVID-19 related deaths are thought to be due to myocarditis. There is also growing evidence for COVID-19 vaccine-

related myocarditis. We present the first case of a patient with severe isolated cardiomyopathy requiring heart transplant after both COVID-19 infection and vaccination.

**Case Report:** A 58-year-old male with no prior medical history was diagnosed with COVID-19 infection in December 2020 without hospitalization. He experienced declining symptoms over the next 7 months and completed COVID-19 vaccination in July. On 8/10/2021, he presented to the emergency room with worsening exertional dyspnea and orthopnea. Initial labs revealed elevated NT-proBNP (1,701 pg/mL) and high-sensitivity cardiac troponin-T (45 ng/L). Transthoracic echocardiography revealed reduced left ventricular (LV) ejection fraction at 15% and LV end-diastolic diameter at 5.6 cm. Coronaries were clear. Cardiac MRI (cMR) is depicted in *Figure 1*. He was managed with an Impella device and dobutamine but failed weaning from this cardiac support. He was listed for transplant as UNOS Status 2 and underwent successful OHT on 9/19/2021.

**Summary:** Acute myocardial injury is known to be a frequent complication during the COVID-19 course, but it is not known to require advanced therapies. There is only one other case from France that describes a patient bridged with temporary mechanical support to OHT following COVID-19 induced cardiomyopathy. In both cases, cMR revealed similar late gadolinium enhancement (LGE) patterns. The cases differ as our patient experienced Long COVID symptoms over 8 months after diagnosis and was vaccinated while the French report describes a patient who was diagnosed with COVID-19, experienced end-stage heart failure and underwent transplant all within 11 days. This case contributes to the lacunae in data in the era of COVID-19 and its vaccines.

**Figure 1** Mid-myocardial and subepicardial LGE

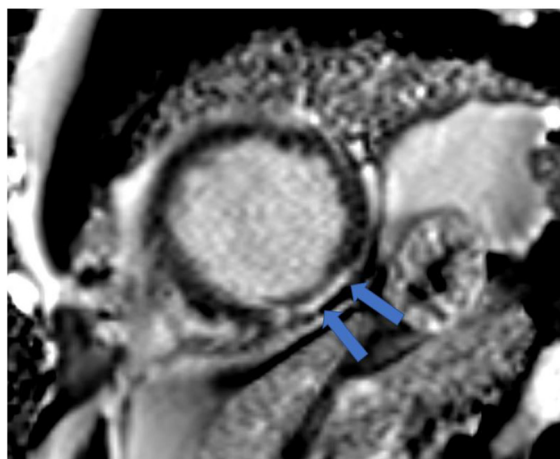


Figure 1. Mid-myocardial and subepicardial LGE.

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#### An Unusual Cause of Superior Vena Cava Stenosis

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**Introduction:** An unusual cause of superior vena cava stenosis following heart transplantation.

**Case Report:** A sixty-five year old female underwent orthotopic heart transplantation for chemotherapy-induced cardiomyopathy after treatment for breast cancer in 2008. She required peripheral veno-arterial extracorporeal membrane oxygenation for primary graft dysfunction immediately post-transplantation. Venous access proved challenging due to a combination of implantable defibrillator therapy (extracted at transplant) and left sided mastectomy with lymph node clearance. Attempts at floating a pulmonary artery catheter were unsuccessful. Three days later she developed clinical signs of superior vena cava (SVC) obstruction, with head and upper limb oedema and elevated central venous pressure at 25mmHg. Echocardiography showed a moderate pericardial effusion but no tamponade and an underfilled right heart. Venography confirmed stenosis of the