

# Successful weaning of a patient from left ventricular assist device after recovery of cardiac function: a case report

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**Introduction:** Cardiovascular diseases, including heart failure (HF), remain a significant public health challenge, contributing to high morbidity, mortality, and medical-economic burdens. Initially designed as a bridge to heart transplantation or recovery, Left Ventricular Assist Devices (LVADs) are now increasingly used as destination therapy, significantly improving long-term patient outcomes. LVAD explantation is considered in clinical cases such as myocardial recovery, heart transplant candidacy, or managing complications like infections. Successful explantation requires a multidisciplinary team, including cardiac surgeons, anesthesiologists, cardiologists, perfusionists, nurses, physiotherapists, and psychologists. The process involves thorough hospital evaluations based on hemodynamic and echocardiographic parameters.<sup>1</sup>

**Case report:** We present the case of a 57-year-old female patient who received a HeartMate 2 LVAD in 2015 due to dilated cardiomyopathy and left-sided HF. Her medical history includes cholecystectomy, long-term hypertension management, and progressive HF. The patient underwent pre-transplant evaluation and had multiple hospitalizations for microcytic anemia. In March 2020, she was hospitalized for a local infection and bleeding around the LVAD exit site. Monthly clinical and echocardiographic monitoring followed. By July 2023, LVAD flow and speed were gradually reduced as part of re-evaluation. A favorable myocardial response led to the decision for potential LVAD explantation. Cardiac function was assessed in three stages: normal pump support, minimal support, and finally, percutaneous LVAD decommissioning. After deactivating the LVAD, her hemodynamic and echocardiographic parameters remained stable. The procedure and recovery were uneventful, with the patient remaining hemodynamically stable. She was discharged in good condition with long-term heart failure therapy. Follow-up confirmed full recovery.

**Conclusion:** This case demonstrates that a multidisciplinary approach and ongoing education significantly improve patient outcomes. The involvement of primary healthcare and family support is vital. This rare LVAD decommissioning case highlights the need for staff education in managing complex scenarios, benefiting both patients and healthcare teams.

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## LITERATURE

1. Bhattacharya P, Samson R, Apte N, Fu S. Myocardial recovery following left ventricular assist device implantation. *Indian J Thorac Cardiovasc Surg.* 2023 Jul;39(Suppl 1):154-160. <https://doi.org/10.1007/s12055-023-01543-2>