Mechanical support of circulation with a left ventricular assist device (LVAD) is a rapidly evolving field. In this article we present three patient cases that involve implantation of a LVAD called HeartMate II (HM II), and describe different strategies for treating patients with the terminal stage of heart failure (HF) and the indications for placement of a LVAD.

**Patient 1** — N. S. 66 y, M. The patient has a history of arterial hypertension (AH), diabetes mellitus type II (DM II), and a myocardial infarction in September 2011. Clinical suspicion for HF was confirmed by echocardiography, which showed global left ventricular hypertrophy, an ejection fraction of 20%, mitral regurgitation, and normal right ventricular dimensions. Coronary arteriography showed triple vessel disease and scintigraphy showed scar tissue without viable myocardium. In October 2011, HM II was indicated as destination therapy. The only incident worth nothing was an infection at the exit site of the cannula that occurred one year later and was treated without complications. The patient continues to perform laborious tasks on his farm and refuses to quit.

**Patient 2** — Š. J. 65 y, F. The patient has a history of AH, DM II, and terminal HF with LVAD implantation in April 2010. In October 2011, the heart transplantation was required due to a resilient infection at the HM II stoma that led to sepsis. In June 2012, a syncopal event subsequent to asystole indicated the need for implantation of a permanent pacemaker. The patient currently feels well and tolerates physical activity.

**Patient 3** — V. H. †63 y, F. The patient has a history of DM II, STEMI treated with primary PCI, triple vessel CAD, double CABG, femoral and iliac artery disease, renal and hepatic dysfunction, and vascular changes in the brain. Echo-cardiography showed left ventricular dilation, contractility of only the base of the left ventricle, and an EF of ~15%. In December 2011, HM II was indicated as destination therapy. Due to anti-heparin antibodies implantation was postponed until May 2012, when it was performed alongside CABG (RCA-SVG). Three months later, the patient sustained NSTEMI. In February 2013, the patient was hospitalized for left ventricular failure due to partial papillary muscle rupture and resultant mitral insufficiency. Blood cultures at the time were negative. In April 2013, the patient died of multiorgan failure. Autopsy reports found a destroyed mitral valve without evidence of endocarditis.

**KEYWORDS:** left ventricle assisted device, heart failure, destination therapy, heart transplantation.

**CITATION:** Cardiol Croat. 2013;8(9):290.

---

**Literature**

1. McMurray JJ, Adamopoulos S, Anker SD, et al. ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure 2012: the Heart Failure Association (HFA) of the ESC. Eur Heart J. 2012;33:1787-847.
