

Readmissions Following Implantation of Axial Flow Left Ventricular Assist Devices

Hasin, Tal¹; Topilsky, Yan²; Marmor, Yariv³; Park, Soon⁴; Edwards, Brooks⁵; Kushwaha, Sudhir⁵

¹Mayo Clinic, Cardiovascular Disease, Rochester, USA; ²Tel Aviv Sourasky Medical Centre, Cardiology, Tel Aviv, Israel; ³Mayo Clinic, Health Sciences Research, Rochester, USA; ⁴Mayo Clinic, Cardiothoracic Surgery, Rochester, USA; ⁵Mayo Clinic, Cardiovascular, Rochester, USA

Based on the REMATCH experience, readmissions following left ventricular assist devices (LVAD) implantation are thought to be frequent. We sought to determine the occurrence and causes of readmissions in our single center population.

We retrospectively analyzed readmissions to our facility in a cohort of 99 patients, of whom 34 were bridge to transplant, implanted between February 2007 and June 2011 with the Heartmate II axial flow LVAD.

The patients were followed for 1.3 ± 0.8 years. There were 179 readmissions in 68 patients with a readmission rate of 1.1 (0, 2.5) [median (25%, 75%)] per patient/year follow-up. Patients spent 6.2 (0, 15) days in the hospital per patient/year follow-up. Timing of readmission was 142 (56, 327) days after LVAD implant. Leading defined causes of readmission were gastrointestinal bleeding (40 returns in 25 patients), infections unrelated to pump (20 in 17 patients), ventricular arrhythmias (19 in 12 patients), other non-LVAD cardiac related readmissions (18 in 16 patients), other bleeding including cerebral bleeding (15 in 14 patients) and hemolysis (10 in 9 patients). Less frequent causes included biliary complications, pump parameter abnormalities, thromboembolic events, pacing device complications, supraventricular arrhythmias, pleural effusion, trauma and device infection.

In conclusion readmission rates for recipients of axial flow LVAD are low. The leading cause is gastrointestinal bleeding followed by sepsis and cardiac (non-LVAD) complications.