

LVAD vs. Heart Transplantation in End Stage Heart Failure

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Patients with end stage heart failure are increasing and have poor quality of life and prognosis. Currently heart transplantation is the preferred treatment for end stage heart failure. The long-term outcomes following cardiac transplantation have been greatly improved, with a median survival of 10.7 years and survival conditional on surviving to 1 year after transplant of 13.6 years. Quality of life has also improved as immunosuppressive agents have become more targeted for the rejection process. However, the supply of donor hearts is insufficient to meet the need and many patients are not eligible for transplantation due to age or comorbid conditions. For these reasons, various mechanical circulatory supports have been developed for short-, intermediate-, and long-term support. Among them left ventricular assist devices (LVADs) are increasingly used for the management of patients with end stage heart failure both as a bridge to transplantation and as destination therapy. The Interagency Registry for Mechanically Assisted Circulatory Support (INTERMACS) in the USA reported that by June, 2013, more than 12,000 patients in the USA had been placed on long-term LVADs, and the number (>2000 per year) had grown to approach those with a cardiac transplantation. LVADs have been shown to prolong survival in this clinical setting; the 2-year survival rate in patients with LVADs is now about 75%. However, there are several complications such as bleeding, infection, pump thrombosis, right heart failure, and device malfunctions that require proper attention and management. Further investigations are needed to

determine who would benefit most from device support versus cardiac transplantation.