

Abstract:

Patients with diabetes mellitus (DM) are known to have reduced life expectancy and be at increased risk for multiple morbidities including serious infection. However, published data on DM outcomes after left ventricular assist device (LVAD) implantation are sparse, inconsistent and individual studies are small with limited power. We conducted a systematic review and meta-analysis to compare survival and adverse events post-LVAD in DM vs. non DM (NDM) patients. Medline, Scopus and Cochrane Central databases were searched for studies comparing outcomes in DM and NDM patients undergoing LVAD implantation for advanced heart failure (HF). Results were reported as random effect risk ratios (RR) with 95% confidence intervals. We identified 5 retrospective cohort studies, at low risk of bias, reporting on 1,351 patients (n=488 DM). There was increased 30-day mortality (RR: 1.57 [1.00, 2.47]; p=0.05; I²=0%) among DM vs. NDM. The DM and NDM groups did not differ significantly in terms of 1-year mortality (RR: 1.15 [0.98, 1.35]; p=0.08; I²=39%), device-related infection (RR: 1.05 [0.92, 1.19]; p=0.88; I²=0%), ischemic stroke (RR: 1.29 [0.91, 1.83]; p=0.69; I²=0%), hemorrhagic stroke (RR: 1.10 [0.42, 2.83]; p=0.85; I²=69%), or bleeding (RR: 1.06 [0.80, 1.40]; p=0.70; I²=27%). Following LVAD implantation, patients with DM, versus patients without, have a modestly elevated 30-day mortality rate. However, 1-year mortality and morbidity did not differ.