

Supplement 4

Patient Characteristics

Two studies correlated younger age and risk for LVAD infection. Goldstein et al¹ found a significant association between younger age and risk for LVAD infection and for risk of death due to LVAD infection. They postulated that this may have been related to a higher level of activity in younger patients, and, thus, a higher degree of local trauma at the driveline exit site, a recognized risk factor for subsequent driveline infection. For every decrease in patient age of 10 years, infection risk increased by 20%. A registry study by Kamdar et al² similarly showed younger age to be a risk factor for infection, although notably, neither study controlled for duration of LVAD support.

In a secondary analysis of the HeartMate II LVAD bridge to transplant and destination therapy trials, extremely obese patients (BMI >35) had an increased risk of device-related infection and sepsis³. There were more driveline infections and sepsis in obese patients than in underweight patients, but other types of infections did not differ in these groups³. Four other studies of various devices showed that a higher BMI was a risk factor for infection.⁴⁻⁷ These findings were similar to those in a study of the continuing access protocol for the HeartWare HVAD, where driveline infection was associated with both increased BMI and diabetes.⁸ However, 1 study showed no infections in a cohort of 85 patients, including 21 patients with a BMI greater than 30, suggesting that BMI may not be a strong comorbidity.⁹ In addition, a study from Japan showed an association with smaller BMI and risk of driveline infection.¹⁰

References

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