Objective: To examine effectiveness of acute inpatient rehabilitation (AIR) in improving functional outcomes in people who have left ventricular assist device (LVAD) placement.

Methods: A retrospective review of medical records of 20 LVAD patients admitted to Cardinal Hill Rehabilitation Hospital (CHRH) after placement of LVAD. A total of 20 LVAD patients were identified from 01/2011 to 11/2013 was performed.

Results: LVAD patients with AIR had significantly higher FIM scores from admission to discharge compared with the mean of 23 for patients admitted to AIR for cardiac diagnosis; (c) total FIM efficiency was 2.454 ± 1.4, compared to the national mean for cardiac-related AIR stay of 2.28. 95% of patients were discharged directly to home.

Conclusions: Our findings suggest that patients with LVADs achieved both motor and cognitive functional gains from AIR stay. Beneficial effect of AIR stay promotes safe discharge home.

INTRODUCTION

It has been estimated that between 250,000–500,000 people in the US have end-stage heart failure. Previous studies have demonstrated that LVAD placement improved survival compared with medical management of patients with end-stage heart failure. People who have LVAD placement often have deficits in ADLs secondary to decreased cardiac output and endurance due to prolonged immobility and myopathy. Our study is different from previous studies for two reasons: 1) we compared functional outcomes in a free standing rehab hospital rather than a tertiary care hospital, and 2) we analyzed FIM components as well as FIM sub components. The objective of this study was to determine the effectiveness of AIR in a free standing rehab hospital with respect to functional improvement in patients who have undergone LVAD placement. The hypothesis was that AIR in a free standing rehab hospital will improve functional outcomes in patients who have undergone LVAD placement.

METHODS

A retrospective chart review of patients admitted for AIR at CHRH after placement of LVAD. Inclusion Criteria: Hospital records were reviewed of all patients with LVAD admitted to CHRH over a 34-month period, between Jan 2011 and Nov 2013. All patients with LVAD admitted to the CHRH irrespective of their initial admission diagnoses were included.

Exclusion criteria: Patients were excluded if they were younger than 18 or if they were pregnant.

Participants: A total of 20 LVAD patients were identified from 01/2011 to 11/2013 was performed. Once the patients were admitted to the CHRH, they would receive a standard inpatient LVAD program, defined as a total of 3 hours per day of comprehensive physical and occupational therapy as well as speech therapy as indicated. Physiatrists would provide routine inpatient rehabilitation evaluation, and the patients were followed up by the acute care LVAD team on a consulting basis while the patients were in the CHRH. We secured approval by the University of Kentucky/CHRH Institutional Review Board and began data collection. We coded all subjects’ data with numbers so the processed data excluded any identifiers. No identifiable protected health information was collected from the chart reviews.

RESULTS

Main Outcome Measures: Change in total FIM scores; change in motor and cognitive components of FIM scores; change in self-care, sphincter control, transfer mobility, locomotion, communication, social cognition sub-components of FIM scores; Length Of Stay (LOS); total FIM gain; total FIM efficiency; discharge setting after AIR stay. Statistical Package for Social Sciences version 20.0 (SPSS Inc, Chicago, IL) was used to analyze results.

CONCLUSIONS

Our findings suggest that patients with LVADs achieved significant motor and cognitive functional gains (communication, social cognition) during AIR, which have not been previously reported. The beneficial effect of AIR stay promotes discharge home. Our findings are similar to Nguyen E et al., 2013. However, data from our study were collected in a free-standing rehab hospital versus a tertiary care hospital.

REFERENCES

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