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A Bundling Strategy for Left Ventricular Assist Device (LVAD) Patients and Their Care Givers to Minimize Driveline Infections

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Introduction

LVAD brings new alternative to patients suffered from advanced heart failure. It can significantly improve their quality of life. However, it may cause other complications such as driveline infections (DLIs). DLIs manifest about 20% of LVAD implanted population in the United States and about 10% in Hong Kong as well. These infections relate to morbidity and mortality. Thus, finding an effective approach for reducing DLI is paramount to improve quality of life for LVAD implanted patients.

Objectives

1. To improve self care of the LVAD patients at home setting to enhance their quality of life, 2. To reduce the readmission rate related to driveline infections, 3. To strengthen nurse-patient partnership for driveline management.

Methodology

The bundling driveline care has been implemented in our institution since 2014. We have retrospectively compared the driveline infection rate before and after this program. The key messages of bundle care conveyed to LVAD patients and their care giver were 1) application of providine Iodine ointment for first 14 postoperative days, 2)change of exit site dressings every day with chlorhexidine cleansing, 3) minimizing trauma to driveline exit sites by choosing appropriate immobilization devices, 4) applying aseptic technique for minimizing contamination during changing dressing at home, , 5) timing and technique for showering with LVAD, 6) early identification and reporting the signs and symptoms of driveline related abnormality, and 7)keeping a healthy weight with balanced diet and regular exercises. Videos and pamphlets of driveline care were produced for the readability of local users. LVAD patients were requested to send digital images of their driveline exit sites to hospital regularly for continuous assessment.

Result

From 2010 to 2015, there were 30 LVAD implantations (26 Heartmate II, 4 Heartware) in our institution. 3 patients diagnosed DLIs and required readmissions before 2013. No new patient has reported DLI for hospitalization after the implementation of bundling driveline care since 2014. The new driveline management protocol resulted in fewer DLIs. Education of the LVAD patients and their caregivers with a well constructed program is crucial for reducing the risk of DLI. Ongoing care of driveline exit site is one of the key elements for achieving better quality of life for LVAD patients.