AVA 2024

This poster was presented at the AVA Annual Scientific Meeting.

The Use of Antimicrobial Silver-Plated Dressings for LVAD Driveline Infection Prevention: Data to Support Clinical Practice

Nancy M. Richards, MSN, APRN-CNS, CCRN[1]; Karen K. Giuliano, PhD, RN[2].

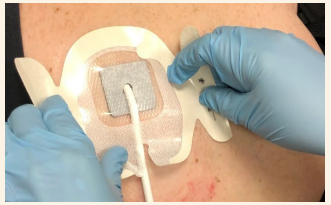
Lead VAD Coordinator, University of Kansas Hospital[1]; Co-Director Elaine Marieb Center for Nursing and Engineering Innovation, University of Massachusetts Amherst[2].

Disclosures

- Nancy M. Richards has nothing to disclose.
- Karen K. Giuliano performs consulting services for Bravida Medical.



CHG dressing



Silver-plated dressing

Purpose

- There is no gold standard method for Left Ventricular Assist Device (LVAD) driveline exit site (DLES) care and research is limited.
- The purpose of this QI project was to compare differences in LVAD late driveline infections (L-DLI) between chlorhexidine (CHG) and antimicrobial silver-plated dressings.

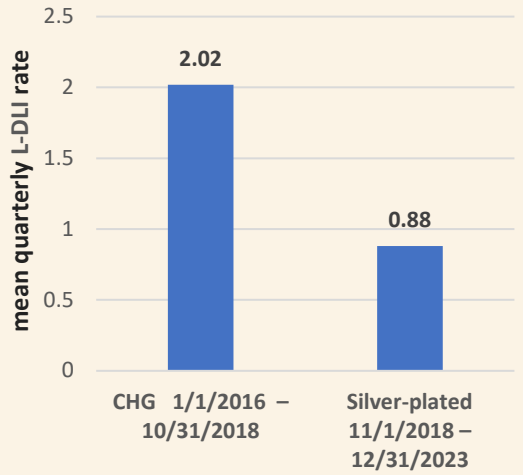
Background

- Heart failure (HF) currently impacts 6.7M Americans and is the most common cause of hospitalization for patients on Medicare.
- HF prevalence is projected to rise to $8.5M by 2030 with an associated annual cost to US Healthcare expected to surpass $70B.
- For late-stage HF, LVADs are used as a bridge to transplant or to support patients who are not candidates for transplant.
- LVADs require external power to connect to the internal pumping mechanism using a percutaneous lead (driveline), creating a chronic wound site that is at risk for infection.
- Infection at the DLES often leads to blood stream and pump pocket infections.
- With no currently agreed-upon gold standard method for optimal DLES care, there is a need for data to support clinical practice.

Results

- The standard of care for driveline (DL) infection prevention in our program is to change the DL dressing every 3 days.
- We conducted a retrospective review of routinely collected LVAD DL infection rate data for late driveline (L-DLI) infection.
- From 1/1/2016 – 10/31/2018, CHG dressings were used. From 11/1/2018 – 12/31/2023, antimicrobial silver-plated dressings have been used, with no other changes in the standard for DL care.
- Quarterly infection rates (Figure 1) show a 40.1% reduction in the quarterly L-DLI rate between the two time periods.

Figure 1: Quarterly L-DLI *(per 100 patient months)*



Conclusion

- Future analyses should include data on duration of therapy, as the longer the DL is left in place, the higher the risk for infection.
- Given that the data collection time was much longer for the antimicrobial silver-plated dressings, this sample likely represents a longer mean duration of therapy-which would further accentuate the difference.
- While more data are needed to improve interpretation, these findings provide support for the current ICCAC recommendations for antimicrobial silver-plated dressings as best practice and can also be used to inform future recommendations.