

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

Nancy M. Richards, MSN, APRN-CNS,CCNS, CCRN¹; Karen K. Giuliano, PhD, RN².

Lead VAD Coordinator, University of Kansas Health System¹; Co-Director Elaine Marieb Center for Nursing and Engineering Innovation, University of Massachusetts Amherst².

Please note: These studies may involve findings that exceed the claims currently cleared by the FDA for the product. Bravida Medical is not intending to make performance claims about its product. The intent is to disseminate the scientific literature on these products. We encourage you to read these studies to understand the strengths and limitations of the data. For some claims, Bravida is seeking to broaden the indications with the FDA in the future using data, such as these studies, to provide the substantiation.

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.

Purpose

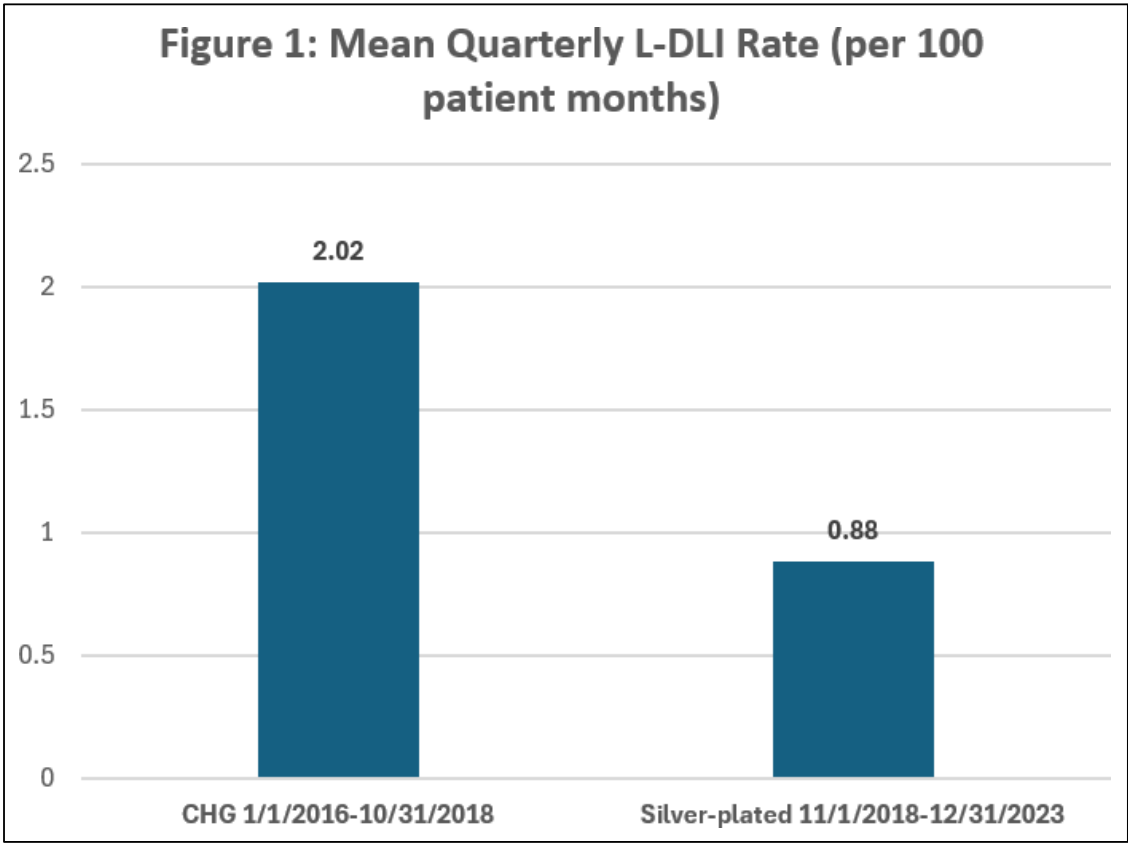
- There is no gold standard method for Left Ventricular Assist Device (LVAD) driveline exit site (DLES) care and research is limited.
- The purpose of this QI project was to compare differences in LVAD late driveline infections (L-DLI) between chlorhexidine (CHG) and antimicrobial silver-plated dressings.

Methods

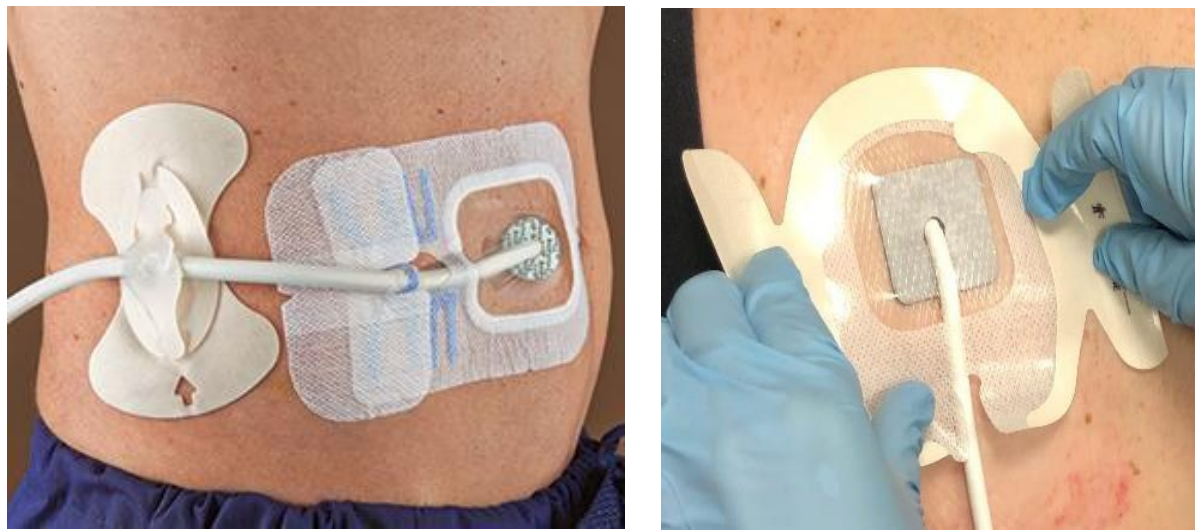
- The standard of care for driveline (DL) infection prevention in our program is to change the DL dressing every 3 days.
- We conducted a retrospective review of routinely collected LVAD DL infection rate data for late driveline (L-DLI) infection.

Results

- 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.



Dressings



CHG

Silver-plated

Conclusions & Future Research

- 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.