Efficacy of Silver Plated Dressing Pad in Reducing Left Ventricular Assist Device Driveline Infections When Compared to Chlorhexidine Impregnated Disc

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Background

- Driveline infections (DLIs) are the most frequent complication in the management of left ventricular assist device (LVAD) patients.
  - 32% infection rate after 6 months (STS INTERMACS database)
  - 21% infection rate over 5 years of follow-up (MOMENTUM 3 Trial)*

*Mehra, JAMA, 2022

Study Design/Hypothesis

- In a cohort of patients from a single center destination LVAD program we hypothesized changing the driveline dressing product and frequency of dressing change will decrease the incidence of DLIs when compared to the current protocol.
- From 2017 to 2022: all patients who underwent implantation of Heartmate II and Heartmate 3 LVADs were treated with chlorhexidine impregnated discs (CHG disc) applied three times weekly for driveline infection prevention.
- From June 2022-present: new implants received silver-plated pad (SSPD) for drive-line site care applied weekly.
- Patients with prior implants were switched to weekly SSPD driveline site care.

Results

Subjects

- N = 85 consecutive patients underwent LVAD (2017-2024)
  - Chlorhexidine: N = 37 (44%)
  - SSPD: N = 23 (27%)
  - Chlorhexidine to SSPD: N = 25 (29%)

Table 1: Demographics & Medical History

Age	61 ± 10
Male gender	74 (87%)
Ethnicity	
White (non-Hispanic)	52 (61%)
Black (non-Hispanic	15 (18%)
Hispanic	14 (16%)
Asian	4 (5%)
Body mass index	31.1 ± 10
Prior cerebrovascular accidents	5 (6%)
Diabetes	24 (28%)
Chronic kidney disease	30 (35%)
NY Heart Association Class	4 (100%)
INTERMACS profile	
1	21 (25%)
2	9 (11%)
3	52 (61%)
4	3 (4%)
LVAD Pump Model	
HeartMate II	17 (20%)
HeartMate III	68 (80%)

Silver Plated Dressing Pad

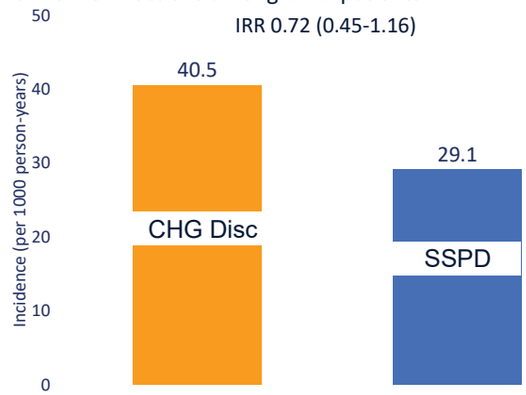
Chlorhexidine Disc

Driveline Infections

After a mean of 36 ± 26 months of follow up, 9 patients developed a driveline infection.

- N = 7 cases of infection while using Chlorhexidine
- N = 2 cases of infection while using SSPD
- Incident risk ratio of **0.72 (95% CL 0.45 to 1.16)** representing an overall **28%** reduction in incidence of DLIs utilizing weekly SSPD

Figure 2. Incidence rate (per 1000 person-years) of driveline infections among LVAD patients



Conclusions

- Changing the driveline dressing protocol to silver plated dressing pad and reducing the frequency of the dressing change to once per week reduced the incidence of driveline infection by 28% when compared to the prior protocol.
- Further study will be required to determine is these results can be replicated in other centers.

Disclosures: None
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