

# Utilization of Silver Based Dressing for Reducing Infection Rates after Left Ventricular Assist Device: Is There a Benefit?

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## OBJECTIVE

Driveline infections are common in patients receiving left ventricular assist device (LVAD). No formal protocols have been adopted for care of driveline exit-site infections. Therefore, we aimed in this retrospective cohort study to investigate the efficacy of silver based dressing in reducing infections after LVAD implantation by comparing infection rates pre and post silver based dressing with a specific focus on if there was a decrease in invasive intervention such as debridement or IV antibiotics.

## METHODS

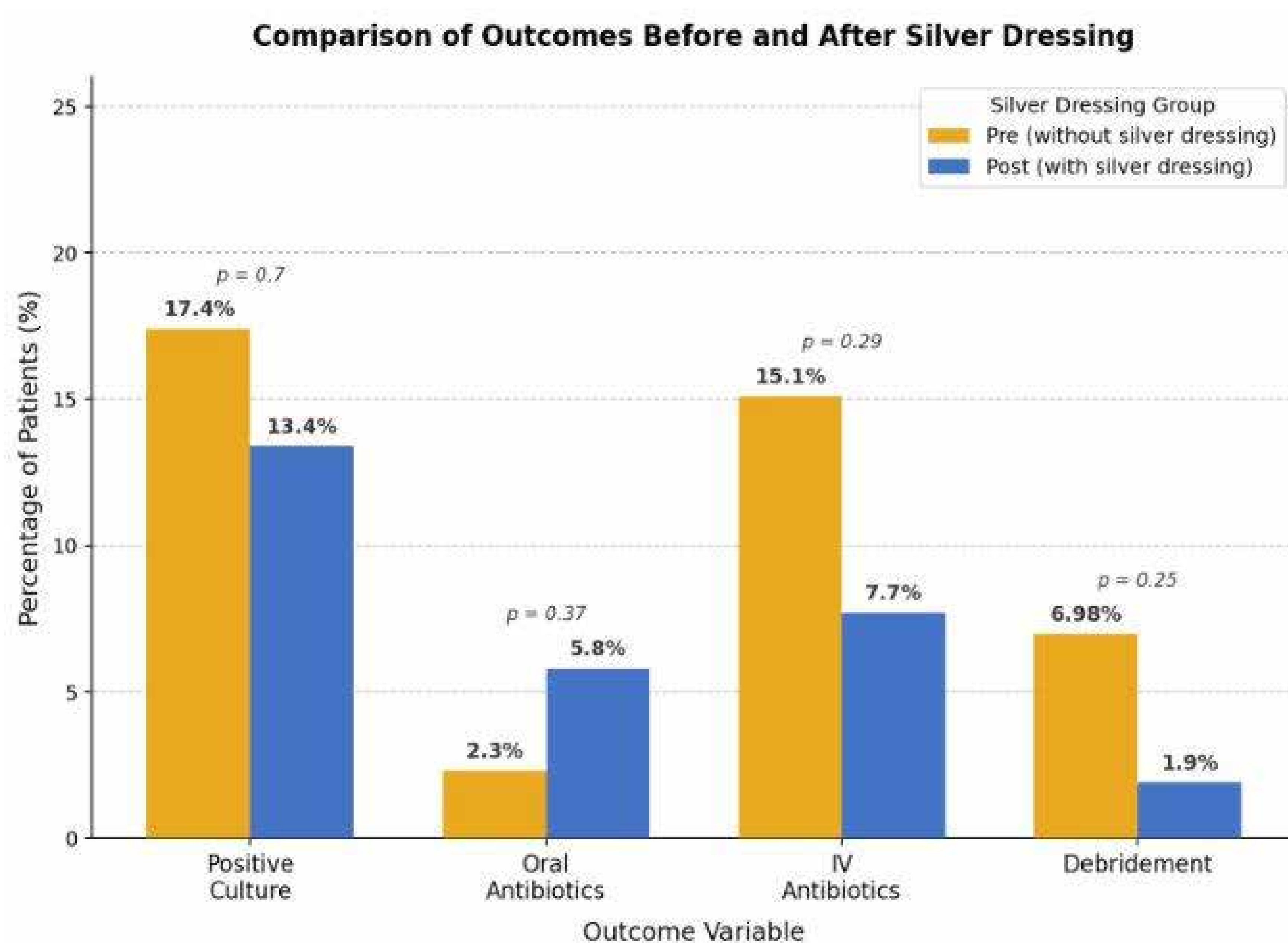
- We conducted a retrospective cohort analysis using data from our institution.
- We included adult recipients ( $\geq 18$  years) who received LVADs from 2018 until 2025.
- Patients were divided into 2 groups based on change in practice: those who did not receive silver dressing with LVAD (pre silver), and those who received silver dressing with LVAD (post silver).
- Infection was defined as positive wound culture with subgroups within specifying intervention: oral antibiotics, IV antibiotics, and debridement.
- Infection rate was analyzed over a follow up period of 2 years after LVAD insertion. The Chi Square test and Fisher's Exact test were used to investigate the association between both groups and infection rate, receiving oral antibiotics, intravenous antibiotics, and wound debridement. Statistical analysis was performed using R version 4.3.3.

## CONCLUSION

Our data shows a decrease in overall infection, surgical debridement, and IV antibiotics in LVAD patients receiving silver dressing. However, due to our small sample size, the data was not sufficient to show statistical significance. Studies with larger sample sizes are warranted to support the utilization of silver dressing in LVAD patients.

## RESULTS

- A total of 138 LVAD patients (52 patients with silver dressing and 86 patients without silver dressing) were included in the analysis.
- The patients' median age and gender were similar between the two groups.
- Overall infection rate in patients with silver dressing compared to patients without silver dressing was 13.4% vs 17.4%,  $p = 0.7$ .
- Infection was defined as positive wound culture.
- The analysis showed no statistically significant trend towards decreased requirement for oral antibiotics in patients without silver compared to patients with silver dressing (OR = 0.39, CI = 0.03 – 3.54,  $p = 0.37$ ).
- However, there was no statistically significant trend towards *increased* requirement for intravenous antibiotics in patients without silver compared to patients with silver dressing (OR = 2.13, CI = 0.61 – 9.49,  $p = 0.29$ ). The analysis also showed no statistically significant trend towards *increased* debridement rate in patients without silver compared to patients with silver dressing (6.98% vs 1.9%,  $p = 0.25$ ).
- Although not statistically significant, there was an observed *decrease* in IV antibiotics use and debridement with the use of silver dressings.



Author Disclosures: None