

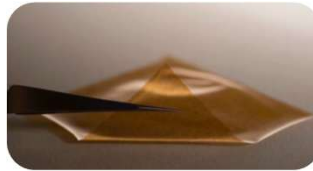
Use of an Antimicrobial Biocompatible Matrix in High-Risk Arthroplasty Patients

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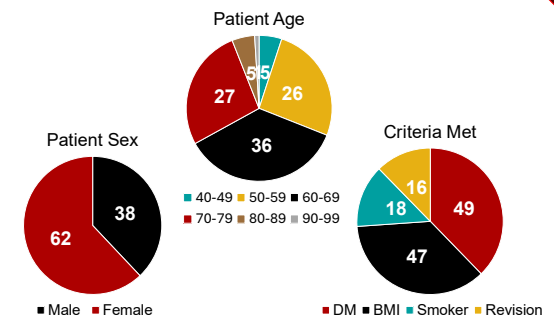
Introduction

- Prosthetic Joint infections is a serious complication of total joint arthroplasty
- Associated with increased morbidity, mortality, and cost
- Infection rate nationally 1-2%, but up to 6% in high-risk populations such as diabetics, smokers, BMI >35, and revision surgery
- Common underlying factor: microcirculatory dysfunction and impaired wound healing
- Enhancing the wound-healing cascade may help reduce infection rates
- An FDA-cleared biocompatible matrix has demonstrated infection reduction in chronic wounds and foot/ankle surgery
- This study evaluates its safety and efficacy in high-risk total joint arthroplasty.



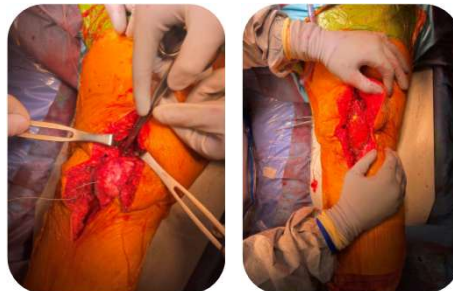
Results

- All 100 patients completed the 90 day follow up
- 2 superficial infections in the cohort, 1 patient had resolution with oral antibiotics. 1 had I&D with no infection deep to fascia
- Aspirations negative in both patients
- No wound complications were reported
- In three months preceding matrix, 2 deep infections were reported, and in the subsequent three months when the matrix was not used, there were 4 deep infections



Methods

- Matrix applied in 100 consecutive high risk total knee and total hip arthroplasties (63 knees and 37 hips)
- All surgeries performed by three arthroplasty trained surgeons
- High risk defined as diabetic, smoker, BMI >35, or revision TKA
- Matrix applied prior to dermal closure
- Patients followed for 90 days by infection control nurse to evaluate for signs on infection
- NHSN criteria used to diagnose deep and superficial infections
- Primary end point was deep or superficial infection
- Secondary end point was wound healing complications



Conclusions

- This is the first study evaluating use of a silver impregnated bioabsorbable matrix in high-risk arthroplasty.
- **Safe:** no wound complications observed in 100 cases
- **Practical:** Surgeons and staff reported easy incorporation without added operative time.
- **Potentially Effective:** Lower infection rates noted during periods of matrix use.
- **Next Steps:** A matched cohort study with 2-year follow-up is planned.
- Due to the low baseline infection rate, larger multi-center studies are needed to confirm efficacy.

Acknowledgments

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