

Use of Mirragen® Advanced Wound Matrix in Two Cases of Chronic Venous Stasis Ulcers and Pyoderma Gangrenosum

Dr. Richard Simman MD, FACS, FACCWS; Fatima Khan BS; Madhulika Kastury BS; Abigail Royfman BS; Amber Edson MS, BS

INTRODUCTION

Chronic venous stasis ulcers (CVSUs) and pyoderma gangrenosum (PG) are debilitating skin conditions characterized by chronic inflammation, tissue breakdown, and impaired healing. CVSUs result from venous insufficiency and sustained venous hypertension, while PG is an autoinflammatory neutrophilic dermatosis often associated with systemic disease. Both conditions are frequently refractory to conventional treatments, leading to prolonged discomfort and increased healthcare burden.¹⁻² Mirragen Advanced Wound Matrix is a completely bioabsorbable borate-based glass fiber matrix designed to support tissue regeneration by facilitating angiogenesis, collagen deposition, and re-epithelialization. FDA-cleared for various acute and chronic wounds, Mirragen presents a novel option for enhancing healing in difficult cases. This prospective case series describes our clinical experience using Mirragen as an adjunctive treatment in patients with non-healing CVSUs, with and without associated PG.

METHODS

Two patients were managed in an outpatient wound care setting using Mirragen as an adjunct to standard care. One patient had recurrent CVSU at their right medial ankle with lipodermatosclerosis, while the other presented with CVSUs located in the left lateral leg that were complicated by PG. This patient was on tapered prednisone for her PG, which may slow the healing process along with their uncontrolled diabetes. Weekly Mirragen applications were paired with absorptive dressings and compression therapy. Debridement was performed in the patient with CVSU alone, but was voided in the CVSU complicated by PG case due to pathergy risk. The patient with CVSU alone received 4 treatments over 8 weeks, while the PG case had 60% coverage in 4 months with 16 applications based on clinical response and coverage limitations set by the Centers for Medicare & Medicaid Services.

RESULTS

Both patients experienced favorable outcomes following treatment with Mirragen. One patient achieved complete wound closure, while the second demonstrated a substantial reduction in wound size with progressive epithelialization. Both reported notable pain relief after the initial application, with continued improvement throughout the treatment course. No adverse effects were observed.

CONCLUSION

This prospective case series suggests that Mirragen is a safe and potentially effective adjunctive therapy for chronic wounds such as CVSUs and PG. Both patients showed clinical improvement and pain reduction, with one achieving complete closure. In the PG case, the ability to avoid debridement, due to exacerbation of pathergy, while still supporting epithelialization was clinically valuable. These observations suggest a potential role for Mirragen in minimizing discomfort and reducing clinical burden.

PG Case



Week 0
1st Application of
Mirragen

Week 6
6th Application

Week 15
12th Application

Week 22
16th Application

Week 24

Week 30

CVSU Case



Week 0
1st Application of
Mirragen

Week 4
2nd Application

Week 6
3rd Application

Week 9
4th Application

Week 10

Week 14
Final Closure

REFERENCES

1. Laurentin-Perez LA, Buck II DW, Rivera D. Can Bioactive Glass Matrix be Used to Facilitate Pain Reduction and Healing for Patients with Pyoderma Gangrenosum Ulcers? Wounds Masterclass. 2024;3:1-8.
2. Johnson ML, Ortega E, Armstrong DG. How Can Novel Bioactive Glass Wound Matrix Optimize Hard-to-heal Venous Leg Ulcers in Geriatric Patients with Multiple Comorbidities. Wounds Masterclass. 2024;3:1-7

Acknowledgements: *Mirragen Advanced Wound Matrix, ETS Wound Care, LLC. This poster was prepared in collaboration with ETS Wound Care, LLC. All protocols and clinical assessments were conducted and reported independently by ProMedica of without any financial compensation from the manufacturer. For application instructions and risks of this device, please refer to the Mirragen Instructions for Use.