Case Study Report

Wound management regimen of MicroMatrix® with Cytal® Wound Matrix 6-Layer and 2-Layer facilitates wound closure after treatment of Fournier's gangrene with multiple comorbidities

Age: 63 **Sex:** Female **BMI:** 58

Location of Wound: Groin and perineum.

Comorbidities: Diabetes, hypertension, hyperlipidemia, morbid obesity.

Length of Stay: 10 days in ICU.

ACell Product(s) Used: MicroMatrix® and Cytal® Wound Matrix 6-Layer and 2-Layer devices.

Outcome: Patient discharged to LTAC on day 10, no skin graft required; no readmission at 30 days.

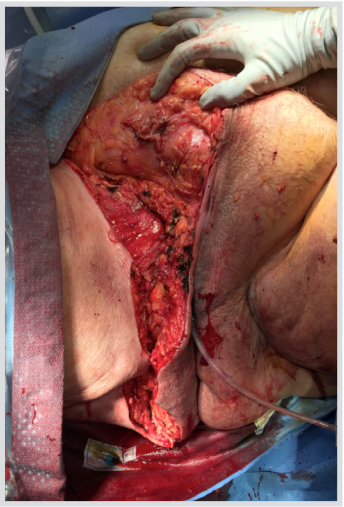

Figure 1. Week One, Debridement of necrotized tissue in the groin and perineum regions prior to Cytal and MicroMatrix application.

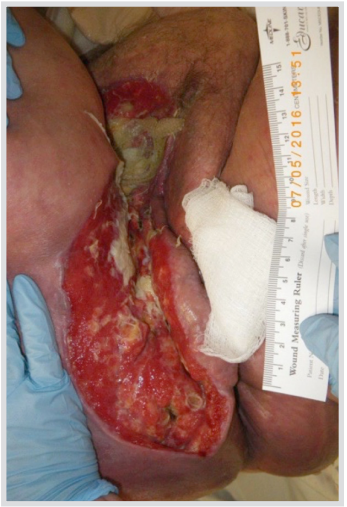

Figure 2. Week Five, Perineum.

Clinical Presentation and Case Background

A 63-year-old morbidly obese female patient presented to the emergency room with right buttock pain, redness, swelling, and fever. The patient had a history of diabetes, hypertension, hyperlipidemia, and morbid obesity (BMI 58). Upon admission, the patient underwent a physical examination, computerized tomography (CT) scan, and incision/drainage of an abscess. She was diagnosed with Fournier's gangrene of the groin and perineum and transferred to the intensive care unit (ICU) for treatment.

Management of Wound

The patient was immediately started on antibiotics, followed by incision and drainage of the purulent infected region. On Day Two, the patient was taken to the operating room where she was found to have "extensive infection and necrotic tissue involving the right mons pubis, labia majora, perineum, and gluteal" regions.

The patient underwent debridement of the abdominal wall and perineal areas to remove the infected and necrotic tissue (Figure 1). On Day Five, the patient underwent a second debridement followed by application of approximately 4,500mg of MicroMatrix and four 10cm x 15cm Cytal Wound Matrix 6-Layer devices to cover the wound. The Cytal Wound Matrix devices were secured with 2.0 absorbable synthetic sutures and covered with non-adherent mesh dressing, followed by application of saline gauze in a wet to dry fashion. There were no complications related to the treatment of Fournier's gangrene. Debridement and subsequent wound management were well tolerated by the patient.

Outcome of Management and Follow-up

Following the application of MicroMatrix and Cytal Wound Matrix, rapid tissue ingrowth negated the need for a skin graft. On Day Ten, it was the treating physician's opinion that the patient did not require ongoing intensive care; she was discharged to a long-term acute care (LTAC) facility where she underwent weekly dressing changes (Figures 2, 3). During five of these dressing changes, additional MicroMatrix and Cytal 2-Layer devices were applied. The patient did not experience any complications related to the treatment of Fournier's gangrene while she was an inpatient and there were no 30-day readmission post-discharge from the ICU (Figure 4).

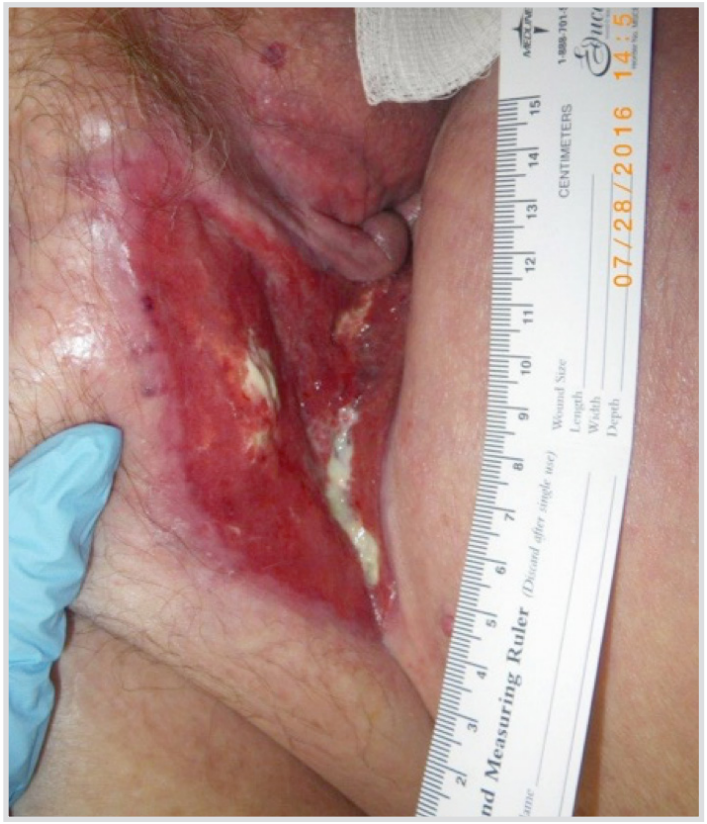

Figure 3. Week Eight, Perineum.

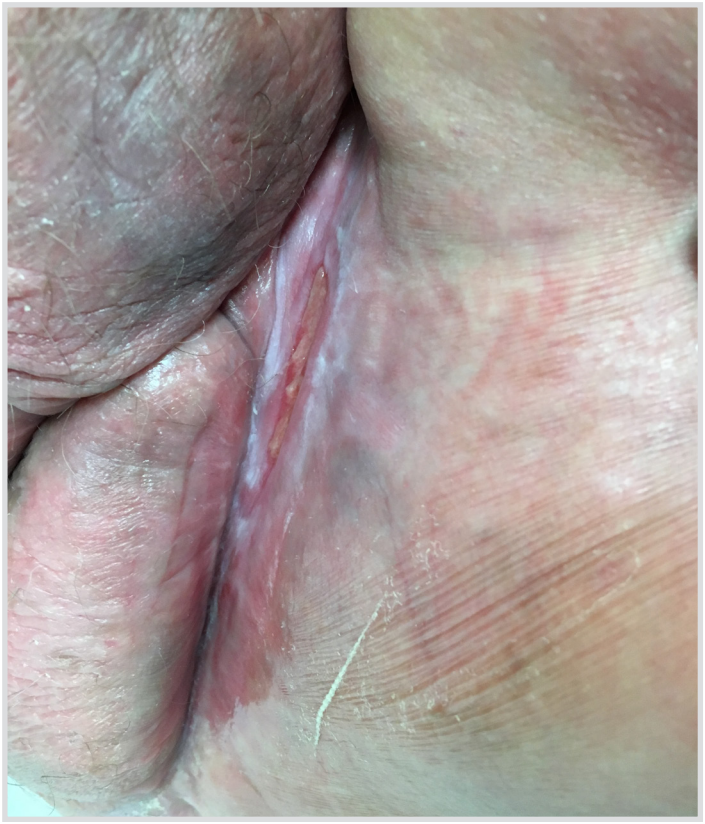

Figure 4. Week 29; Closure of perineum wound.

Why This Patient was a Candidate for ACell Product

It was the opinion of the treating surgeon that due to the large volume of tissue loss, large wound surface area, and significant comorbidities, this patient was a good candidate for wound management with Cytal and MicroMatrix.

ACell Product Summary

The initial application consisted of approximately 4,500mg of MicroMatrix and four 10cm x 15cm Cytal Wound Matrix 6-Layer devices were applied to the wound following the second of two debridements. Follow up treatment used MicroMatrix and Cytal Wound Matrix 2-Layer.

Source

This case was managed by Joshua Pessin, MD, at an urban, non-teaching hospital in Wisconsin, USA. Dr. Pessin is a board certified general surgeon.

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Note: The data presented here contain the opinions of and personal techniques practiced by the treating physician(s). The techniques presented herein are for informational purposes only. The decision of which techniques to use in a particular clinical application lies with the treating physician(s) based on patient profile, particular circumstances surrounding the procedure, and previous clinical experiences.

Note: MatriStem® Wound Matrix devices were rebranded as Cytal Wound Matrix devices in January 2016.

Note: Cytal Wound Matrix devices are composed of a porcine-derived extracellular matrix, also known as Urinary Bladder Matrix. The devices are supplied in multi-layer sheet configurations (including 1-Layer, 2-Layer, 3-Layer, & 6-Layer) in sizes up to 10cm x 15cm. Cytal Wound Matrix is intended for the management of wounds including: partial and full-thickness wounds, pressure ulcers, venous ulcers, diabetic ulcers, chronic vascular ulcers, tunnel/undermined wounds, surgical wounds (donor sites/grafts, post-Mohs surgery, post-laser surgery, podiatric, wound dehiscence), trauma wounds (abrasions, lacerations, second-degree burns, and skin tears), and draining wounds. The device is intended for one-time use.

Note: MicroMatrix devices are composed of a porcine-derived extracellular matrix, also known as Urinary Bladder Matrix. The devices are supplied in a particulate form in quantities up to 1,000mg. MicroMatrix is intended for the management of topical wounds including: partial and full-thickness wounds, pressure ulcers, venous ulcers, diabetic ulcers, chronic vascular ulcers, tunnel/undermined wounds, surgical wounds (donor sites/grafts, post-Mohs surgery, post-laser surgery, podiatric, wound dehiscence), trauma wounds (abrasions, lacerations, second-degree burns, and skin tears), and draining wounds. The device is intended for one-time use.

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