CASE STUDY

INTEGRA
LIMIT UNCERTAINTY

PRODUCTS

MicroMatrix®
UBM Particulate

Cytal®
Wound Matrix

MicroMatrix® UBM Particulate and Cytal® Wound Matrix 3-Layer Facilitate Closure of Traumatic Scalp Avulsion Injury After Previous Failed Attempts with Other Methods

Treated by Beomjune B. Kim, DMD, MD, FACS, and Sami M. Alshehry, DDS, PhD

Case Information

Age: 56 | **Sex:** Female | **BMI:** 30.0

Integra® LifeSciences Products Used:

- MicroMatrix® UBM Particulate
- Cytal® Wound Matrix 3-Layer

Case Outcome

Management with MicroMatrix and Cytal devices resulted in a vascularized wound bed within 15 days, allowing for use of a split-thickness skin graft for closure. Skin graft demonstrated greater than 90% acceptance, and the patient had no complications or readmissions.

Before MicroMatrix & Cytal Application

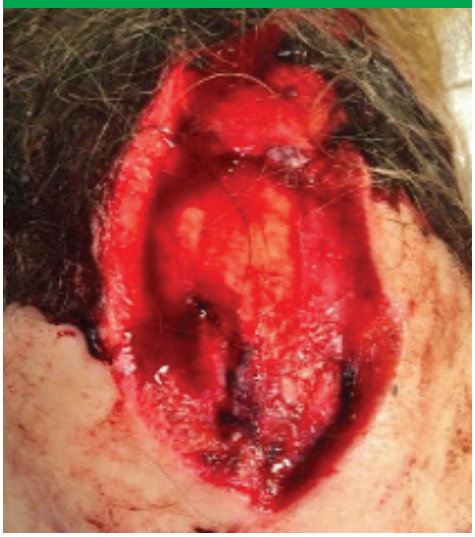

Figure 1. Initial scalp avulsion injury following a motor vehicle accident.

After MicroMatrix & Cytal Application

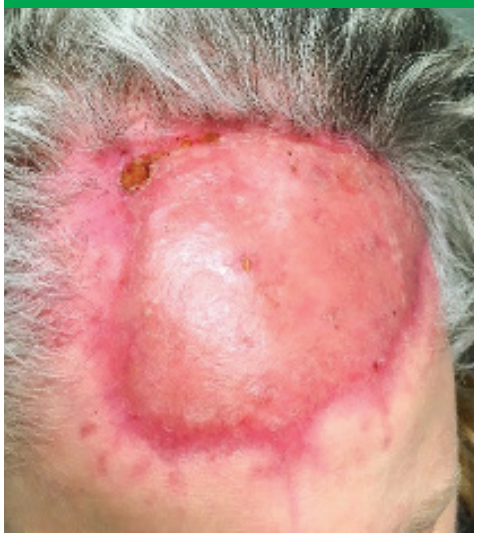

Figure 2. 20 days post-split-thickness skin graft application – final wound closure.

Case Presentation and Background

A 56-year-old female patient presented to the emergency department with a traumatic scalp avulsion injury of the forehead to mid-skull following a motor vehicle accident. (Fig. 1) The patient was initially managed by maxillofacial surgery. Primary closure with a local skin flap was attempted but failed after necrosis of the skin flaps developed. (Fig. 4)

The wound was then managed with application of a matrix wound dressing (cross-linked bovine tendon collagen and glycosaminoglycan) and negative pressure wound therapy (NPWT), which were unsuccessful in achieving a granulated wound bed after three weeks.

Wound Management

The patient was admitted for debridement with the wound measuring approximately 7 cm x 10 cm and exposed bone observed. The treatment plan was to utilize Cytal and MicroMatrix wound devices to prepare the wound for definitive closure with a split-thickness skin graft. Approximately 6,000 mg of MicroMatrix UBM Particulate and one 7 cm x 10 cm Cytal Wound Matrix 3-Layer device were applied to the wound. The devices were covered with a non-adherent dressing and a hydrogel dressing. The patient was discharged two days post-application and dressings were changed weekly on an outpatient basis.

Clinical Outcomes and Follow-Up

Following the application of MicroMatrix and Cytal, a healthy vascularized wound bed was formed over the exposed bone within 15 days. (Fig. 5)

Three weeks post-application, the wound bed was covered with a split-thickness skin graft. (Fig. 6) After three weeks, the skin graft demonstrated greater than 90% acceptance.

There were no complications and no readmissions.

Case Summary

Approximately 6,000 mg of MicroMatrix UBM Particulate and one 7 cm x 10 cm Cytal Wound Matrix 3-Layer device were applied directly to the wound following debridement after NPWT device removal. The Cytal sheet was cut to fit the wound.

Why Did You Choose These Integra Products

Primary closure with a local skin flap had failed, as had use of an alternative advanced wound dressing and NPWT. Following debridement, this patient had a large complex wound with exposed bone. While closure with a split-thickness skin graft was planned, the treating physician initiated wound management with MicroMatrix and Cytal with the goal of facilitating a vascularized tissue bed in preparation for the skin graft.

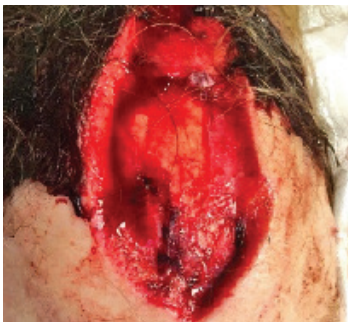

Figure 3. Initial scalp avulsion injury following a motor vehicle accident.

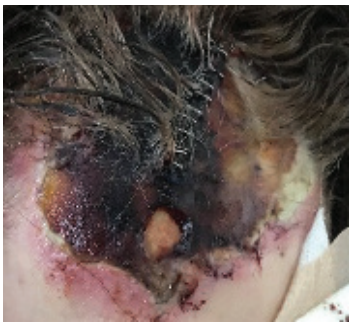

Figure 4. Necrosis of the skin flaps used in the initial attempt to close the primary defect.

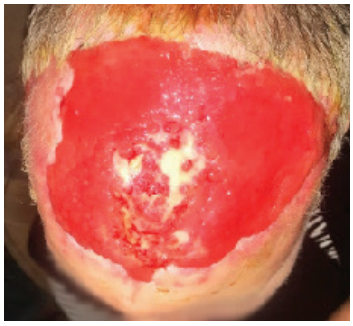

Figure 5. 15 days post-surgical debridement and subsequent application of Cytal and MicroMatrix – vascularized wound bed.

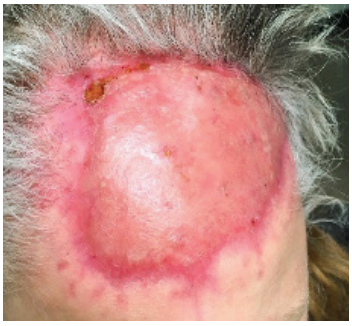

Figure 6. 20 days post-split-thickness skin graft application – final wound closure.

Source

This case was managed by Beomjune B. Kim, DMD, MD, FACS, and Sami M. Alshehry, DDS, PhD, at a teaching facility in Louisiana, USA. Dr. Kim is an Assistant Clinical Professor and Dr. Alshehry is a resident in the Oral Maxillofacial Surgery program.

Dr. Kim and Dr. Alshehry were paid consultants to ACell®, Inc., which was acquired by Integra LifeSciences in 2021. The results presented herein are case-specific and should not be used to draw general conclusions as to clinical outcomes.

MicroMatrix® UBM Particulate

INDICATIONS

MicroMatrix is intended for the management of wounds including: partial and full-thickness wounds, pressure ulcers, venous ulcers, diabetic ulcers, chronic vascular ulcers, tunneled/undermined wounds, surgical wounds (donor sites/ grafts, post-Moh's surgery, post-laser surgery, podiatric, wound dehiscence), trauma wounds (abrasions, lacerations, second-degree burns, skin tears), and draining wounds. This device is intended for one-time use.

CONTRAINDICATIONS

1. Known sensitivity or allergy to porcine materials.
2. Third-degree burns.

WARNINGS

1. If active infection is present, treat patient to resolve infection prior to device application.
2. Do not use glass vial if cracked, broken, or otherwise damaged.
3. MicroMatrix is not indicated for treatment of alopecia.

PRECAUTIONS

Do not tap glass vial with metal objects or handle in a way that may cause glass to break and contaminate wound.

Cytal® Wound Matrix

INDICATIONS

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, tunneled/undermined wounds, surgical wounds (donor sites/grafts, post-Moh's surgery, post-laser surgery, podiatric, wound dehiscence), trauma wounds (abrasions, lacerations, second-degree burns, skin tears), and draining wounds. The device is intended for one-time use.

CONTRAINDICATIONS

1. Patients with known sensitivity or allergy to porcine materials.
2. Third-degree burns.

WARNINGS

1. Exposure to contaminated or infected field can lead to rapid breakdown of device.
2. If active infection is present, treat patient to resolve infection prior to device application.
3. Do not use if cracked, broken, or otherwise damaged.

PRECAUTIONS

Always use aseptic technique when handling device.

For more information or to place an order, please contact:

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