Case Study Report

SCALP AVULSION

MicroMatrix® 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

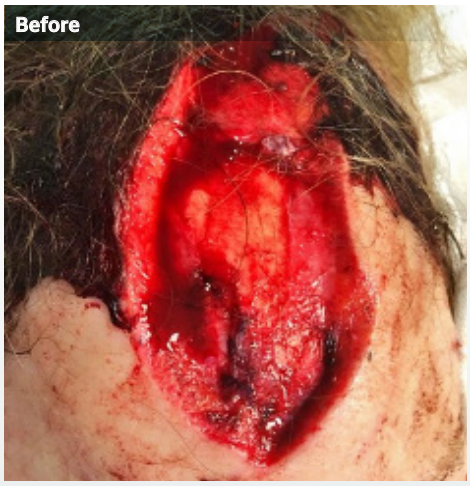
Age: 56 | **Sex:** Female | **BMI:** 30.0

ACell® Product(s) Used:

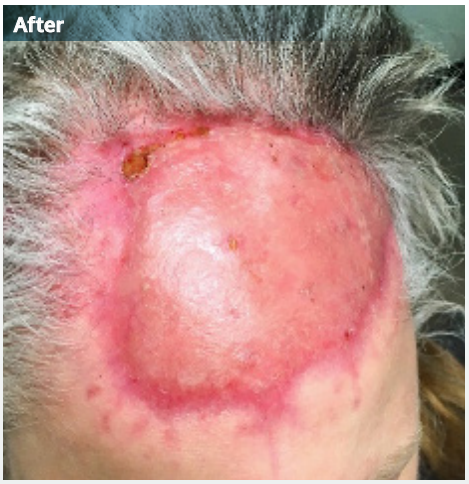
- MicroMatrix
- Cytal Wound Matrix 3-Layer

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.



Initial scalp avulsion injury following a motor vehicle accident.



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

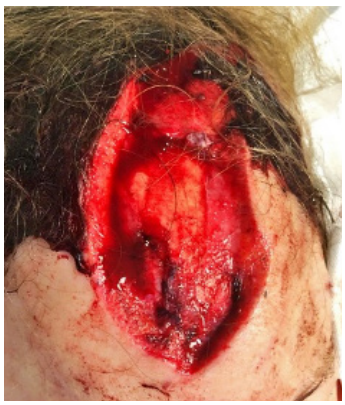
Clinical Presentation and Case Background

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. 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.

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 was unsuccessful in achieving a granulated wound bed after three weeks.

Management of Wound

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 ACell's Cytal and MicroMatrix wound devices to prepare the wound for definitive closure with a split-thickness skin graft. Approximately 6,000 mg of MicroMatrix 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.



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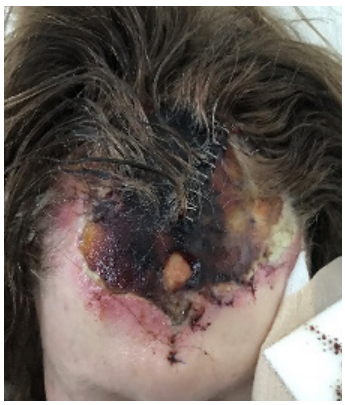
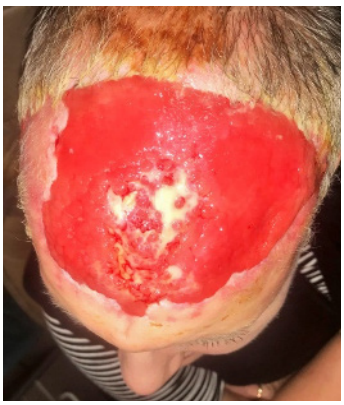
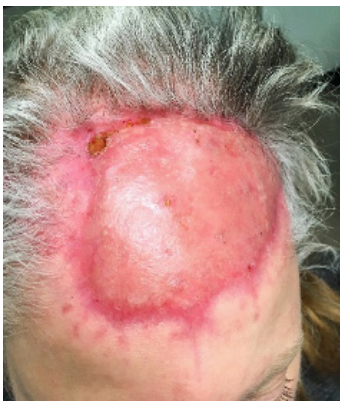


Necrosis of the skin flaps used in the initial attempt to close the primary defect.



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



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

Outcome of Management and Follow-up

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

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

There were no complications and no readmissions.

Why this Patient was a Candidate for ACell 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.

ACell Product Summary

Approximately 6,000 mg of MicroMatrix 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.

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.

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: In this publication, the underlying use of the ACell wound devices to manage wounds falls within the current indications for use of this device.

Note: MicroMatrix and Cytal Wound Matrix devices are composed of a porcine-derived extracellular matrix, also known as urinary bladder matrix (UBM). MicroMatrix and Cytal Wound Matrix devices are 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 devices are intended for one-time use.

Rx ONLY Refer to IFU supplied with each device for indications, contraindications, and precautions.
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