

Major Burn Injury Successfully Treated with Two Applications of Cultured Epithelial Autograft: Establishing Standard Clinical Practices

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4:15 – 4:30 pm**

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Objective:

Upon completion of the lecture, attendees should be better prepared to:

- Consider the use of CEA in treatment of major burns.
- Discuss the importance of standardized procedures in burn care

Abstract:

Introduction: Cultured Epidermal Autografts (CEA) have been an option for coverage of large surface area burns for over two decades. There remains an extreme variability in clinical practice in wound bed preparation, application of CEA and post-operative wound care. Communication between the multi-disciplinary team remains a cornerstone of effective management in CEA patients.

Methods: A 29 year old active duty Marine presented with 75 percent full-thickness burns to his anterior and posterior torso, bilateral upper extremities and most of his bilateral lower extremities. At his first operation after admission, biopsies from his bilateral hips were taken and submitted for CEA processing. 3 weeks after his initial injury, he received 4x1 meshed autograft to his anterior torso and left upper extremity with CEA placed over the autograft. Three weeks after this application, he underwent 3x1 meshed autograft placement to his bilateral lower extremities to include the posterior left leg, all covered with CEA. Wound cultures were taken prior to each CEA placement, which guided choice of dressing.

Results: The patient was initially dressed in polymyxin B soaks after CEA placement. Fluconazole was added to the polymyxin on post-operative day 3 after the wound culture grew pan-sensitive *Candida Albicans*. 8 days after initial placement of CEA, he had over 90% take. Cell migration covered the small area overlying the anterior sternum that did not have CEA take over the next 4 weeks. The patient had 85-90% take of his lower extremity CEA and cell migration quickly filled in the areas of decreased take. Rehabilitation was initiated 7 days after initial CEA placement with no CEA shear or loss as his mobilization quickly progressed. He was discharged from the hospital to his home 3.5 months after his initial injury.

Conclusions: Wound bed preparation, meticulous post-operative wound care and coordination between the many disciplines involved in wound care were responsible for the extraordinary success of this patient's CEA applications.

Disclosure:

Julie Rizzo – No Relevant Financial Relationships to Disclose

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Kalena Recht – Employee, Medical Affairs: Vericel Corporation