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Objective:	Upon completion of the lecture, attendees should be better prepared to: <ul style="list-style-type: none">▪ Describe how Hyaluronic acid, a glycosaminoglycan, is involved in various stages of wound healing.▪ Discuss relevant comorbidities that should be identified in patients requiring wound closure and reconstruction of deep wounds with exposed avascular structures.▪ Identify the next potential steps in achieving final wound coverage/closure of deep wounds with exposed avascular structures following successful application of a bilayer silicone-hyaluronic acid based matrix
Abstract:	<p>Introduction: Management of full-thickness burns and soft tissue defects are particularly challenging when exposed tendon, muscle, vessels, and bone complicate timely wound closure. Various biologic dermal substitutes have been utilized to accelerate wound healing, restore function, cover avascular structures, and minimize scarring. One novel dermal matrix is composed of hyaluronic acid (HA), a glycosaminoglycan involved in all stages of wound healing including inflammation, granulation, and re-epithelialization. The purpose of this study is to characterize a series of patients with full-thickness wounds managed with a bilayer silicone-hyaluronic acid based matrix.</p> <p>Methods: A retrospective chart review was performed on all patients treated with a HA-based matrix at a regional trauma and burn center over a three year period. Demographic data, patient comorbidities, wound characteristics (etiology, size, body area, presence of avascular structure, etc.), and outcomes (time to grafting, percent graft take) were recorded.</p> <p>Results: There were 31 total patients who received treatment with the HA matrix. Median age was 56 years (SD: 16.1 years). The most common wound etiology was burn injury (n=22; 71%). Salient comorbidities were present in a majority (n=19; 61%) of patients; most common was diabetes mellitus (n=15; 48%). Avascular structures (e.g., tendon or bone) were present in 21 (68%) of the wound beds. The median size of dermal substitute placed was 25cm² (SD: ±95cm²). Negative pressure dressings were used in 13 (42%) of cases. Median time to surgery was 14 days after HA placement. Reapplication of the matrix occurred in 6 patients. Graft take was recorded in 24 patients, with a median of 98% graft take. Out of 31 applications, 4 healed without</p>

autografting, 2 had flaps placed, and 1 graft failed.

Conclusions: The results of this study suggest that use of hyaluronic acid based matrices is a safe and speedy method to facilitate wound closure and reconstruction of deep wounds with exposed avascular structures. HA-matrix is viable treatment option even for patients with significant comorbidities. Wound closure was achieved in all but one case with excellent graft take, and time to grafting was comparable with other dermal regeneration templates. Further research on histopathologic changes and aesthetic differences in scar tissue will help determine ideal use-cases for this HA-based matrix and other dermal templates.

Disclosure:

Michael T. Simmons – No Relevant Financial Relationships to Disclose
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Ronald Brooks – No Relevant Financial Relationships to Disclose
Steven A. Kahn – Medline: Consultant and speaker; Pfizer: Advisory panel