Yale NewHaven Health Bridgeport Hospital

Adipose Injectable Filler With Use of Meshed Dermal Matrix and Porcine Urinary Bladder Matrix For the Management of a Complex Achilles Wound

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BACKGROUND

- Chronic Achilles wounds present a significant clinical challenge due to limited vascularity, high mechanical stress, and the complex anatomy of the posterior lower leg.
- Regenerative medicine offers a promising alternative to traditional wound management
- This case highlights a novel approach utilizing a combination of adipose-derived injectable filler, acellular dermal matrix, and porcine urinary bladder matrix to enhance tissue regeneration, provide structural support, and promote wound healing.
- in a 64-year-old non DM male with a chronic, nonhealing full-thickness Achilles wound, this case aims to further support the clinical application of regenerative therapies in the management of complex wounds.

- posterior ankle, involving the Achilles tendon
- Next, meshed acellular dermal matrix graft was then placed over the site and secured with staples.
- and above the Achilles tendon to promote regenerative support.

Case Study

Preop











11 weeks postop

References

RESULTS

- Complete wound closure was achieved within 11 weeks postoperatively, with evidence of enhanced tissue regeneration.
- The combined use of adipose filler, acellular dermal matrix, and porcine urinary bladder matrix supported:
 - Formation of a healthy granular wound base
 - Improved vascularization
- Successful full-thickness wound resolution
- Functional outcomes included restored mobility without pain or complications.
- No adverse reactions or graft-related issues were observed throughout the recovery period.
- Postoperative evaluations demonstrated durable, structurally sound, and aesthetically acceptable tissue repair.

DISCUSSION

- This case underscores the potential of regenerative medicine in the management of complex Achilles tendon wounds.
- The combined use of biologic grafts and adipose-derived filler addressed the unique anatomical and biomechanical challenges of a high-tension, poorly vascularized region.
- Porcine urinary bladder matrix and meshed dermal matrix worked synergistically to establish a supportive, pro-healing wound environment.
- Adipose injectable filler contributed to enhanced vascularization and stimulated tissue regeneration.
- This multidisciplinary, biologically driven approach represents a paradigm shift in chronic wound management, demonstrating improved healing outcomes in anatomically challenging wounds.



- through the use of advanced biologic materials.
- By presenting the clinical course and outcomes

METHODS

- Wound bed preparation was performed over the
- A powdered porcine urinary bladder matrix was applied directly to the wound bed and exposed Achilles tendon.
- Finally, adipose-derived matrix filler was injected into the tissue plane beneath the ulcer