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Massive Keloid Excision of the Posterior Scalp with Salvaged Full-Thickness Skin Graft: A Case Report

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Background

- Keloid scars result from excessive collagen production following dermal injury or inflammation, commonly affecting African Americans.
- Severe keloids can decrease quality of life as they can be painful, pruritic, and chronically infected.
- Acne keloidalis nuchae (AKN) is a chronic, fibrosing folliculitis causing keloid-like lesions on the posterior neck.
- This case report describes a patient with AKN that progressed over 20 years, resulting in a multilobulated keloid on the occipital scalp, causing difficulty lying flat and chronic infections.
- Treated previously with steroids and immunomodulators, the keloid now required surgical intervention.

Methods

- A 50-year-old male presented with a massive, infected keloid on the occipital scalp.
- The keloid was excised en bloc to the subcutaneous tissue.
- The wound bed was irrigated with pure hypochlorous solution to prepare the bed prior to the FTSG, along with pHA irrigation of the recycled skin graft itself.
- Recycled FTSG from the keloid scar was then used to cover the defect.
- Partial closure was done with local advancement scalp and neck flaps.
- Following complete wound closure, postoperative management included negative pressure wound therapy (NPWT), admission to the hospital with infectious disease consultation for culture-directed antibiotics, and inpatient wound care. NPWT was removed on postoperative day three.
- FTSG was harvested from the AKN skin to avoid additional donor site keloid formation.





Left: Recycled FTSG after removal of all fibrotic keloid **Right**: Intra-operative wound closure with FTSG



Pre-operative photos left to right: (1) Occipital scalp with multi-lobulated AKN. Patient in prone position (2) Leftsided view of posterior scalp (3) Right-sided view of posterior scalp.

Post-operative photos left to right: (4) Post-op day 5. Granulation tissue with several surviving islands of skin graft and immunofluorescence demonstrating absence of bacterial load (5) and (6) Post-op day 10.

Post-operative photos left to right: (7) Post-op day 33 with immunofluorescence demonstrating absence of bacterial load as well as granulation tissue (8) Post-op day 40 (9) Post-op day 47.

Results

Key Pearls

- AKN is a fibrosing folliculitis of the posterior scalp, most commonly affecting African Americans.
- Harvesting FTSG from excised skin avoided the need for a donor site and potential keloid recurrence.

Results

- The patient had initial good take of the FTSG and no infectious complications.
- Post-operative wound care and I.V. antibiotics were managed at a LTAC.
- The patient had some surviving islands of recycled skin graft epithelized out from all edges.
- Currently, he has continued wound care with weekly silver nitrate application to granulation tissue.
- There have been no recurrent keloids to date.
- The patient has a greatly improved quality of life and can now comfortably lay flat and on his side.

Conclusion

- This case demonstrates the efficacy of surgical intervention for severe keloids to allow patients to regain quality of life.
- The strong potential for keloid recurrence at the graft donor site and wound complications make this case complex and multifaceted, requiring both medical and surgical management.
- Loose wound closure, diligent wound care, and use of additional medical management post-operatively are essential to prevent keloid recurrence and improve patient outcomes.

References

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