How to Heal the Small Non-healing Problem Burn

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Objectives

• Diagnosis of non-healing burn wounds
• Discuss established treatment options for small problem burns
• Introduction of two new office based procedures for treatment of small problem burns
• Case presentations with detailed procedure description

Definition of Small Non-healing Problem Burns

• Small < 1% TBSA
• Non-healing > 4 weeks open
• Problem = Conventional Treatments have failed (serial debridements, off-loading various topical agents (Collagenase/ Silvergels/ Antimibrobials, including systemic if indicated etc.), occlusive dressing and others) Patient does not agree to or is not a candidate for operative intervention under anesthesia

• Large TBSA, limited donor site
• Contact burns with central graft loss
• Deep burns over bony prominences
• Chronic underlying conditions (plaque, peripheral vascular disease, chronic venous stasis etc.)
• Psychiatric/mental disorders (self-mutilation, MR, CP , dissociative conditions etc., leading to chronic mechanical irritation of wound)

Micrografting vs. Blistergrafting

Micrografting

− Leaves visible donor site
− Donor site takes approx. 3 weeks to heal
− Dermal elements are transplanted with epidermis (fibroblasts and keratinocytes)
− For atrophic wounds without signs of granulation, elements of tendon, bone (within reason) exposed
− Simple, no other device involved besides kit

Blistergrafting (fractional)

− Leaves no visible donor site
− Donor site takes 10 days to heal
− Only epidermis transplanted
− For stagnant wounds with signs of granulation and wounds with poor vascular supply but tissue coverage over bone and tendon
− Suction/heat device is needed

How Small Non-healing Problem Burns Evolve

How Small Non-healing Problem Burns Evolve

• Large TBSA, limited donor site
• Contact burns with central graft loss
• Deep burns over bony prominences
• Debridled patient immunosuppressed, on chronic steroids for autoimmune condition or COPD, extremes of age etc.
• Chronic underlying conditions (plaque, peripheral vascular disease, chronic venous stasis etc.)
• Psychiatric/mental disorders (self-mutilation, MR, CP, dissociative conditions etc., leading to chronic mechanical irritation of wound)

Two New Office Based Procedures

Micrografting

− Micrografting under local anesthesia
− Optimal treatment for stage I and II wounds
− Management of deep burns
− Application of mesh
− Dry debridement

Blistergrafting (different)

− For stage III wounds
− Use of dermal matrices
− Partial thickness wounds

Economic Thoughts

• Both kits cost approx. 500$
• Cost of surgical intervention (conventional skin grafting) in operating room (min. 2000$) saved
• Cost of Home-care nursing saved for 5 days (500$)
• Cost of dressing materials saved for 4+ days (Collagenase = 600$ for 90 gm tube, growth hormone product = 950$ on GoodRX )
• Cost of more expensive “matrix” material saved (acellular dermis, bovine mucosa, collagen powders, collagen/silicone matrix etc., 300$ – 8000$ per application)

My Conclusion

You and your patient have nothing to lose trying one or both of these!!!

Patient Thoughts

− Minimal pain
− No NPO, no disruption of Insulin schedule
− Less dressing changes, less debridements for 1-4 weeks
− No/minimal donor site
− No hospital stay (no disruption of social life)

Case 1

Case 2

Case 3

Other Cases

MICROGRAFTING

BLISTERGRAFTING