ECM* and Polyvinyl Alcohol Foam (PVA) with Methylene Blue (MB) and Gentian Violet (GV) in conjunction with NPWT for a complex Fournier's Gangrene wound with tunnels

Introduction

A complex Fornier's Gangrene wound with new onset DM, AKI, severe sepsis and hyponatremia.

Objective

Close wound with even edge skin advancement to prevent skin contracture and allow for closure with full hip range of motion to allow for sitting or activities of daily living (ADLs) without pain.

Method

- Emergent I&D on admission
- Repeat I&D on post op day 2
- NPWT post op day 2 (x 10.5 wks)
- Cleansed with Hypochlorous acid x 10 min soak time
- Ovine Forestomach Matrix (OFM)/ECM
- Polyvinyl Alcohol Foam (PVA) with Methylene Blue (MB) and Gentian Violet (GV) used as needed in tunnels and on edges with epibole.

Discussion

Although the wound was of significant size with tunnels and co-morbidities the wound fully closed in 15 weeks.

Vanessa Abraham, PT, CWS

Week 1

2nd I&D start of NPWT

Wound measured 19.0 x 10.0 x 10.0 cm with 6.0 cm tunnels at 11 & 1 o'clock. No pain. Vac placed in OR.



Measured 19.0 x 7.0 x 5.5 cm with 5.5 cm tunnels at 11 and 1 o'clock. NPWT with Hypochlorous acid instill. Pain 9/10 – 10/10

Week 7.5



Measured 14.0 x 3.0 x 1.8 cm with 0.3 cm at tunnels at 11 and 1 o'clock. Tunnels no longer packed. Tunnels bolstered down. Ovine Forestomach Matrix (OFM)/ECM continues with contact layer and NPWT. Pain 3/10



Tunnels are fully closed. Measured 11.0 x 1.3 x 1.5 cm. Ovine Forestomach Matrix (OFM)/ECM continues with contact layer and NPWT. Pain 2/10

References

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Conclusion:

The combination of Hypochlorous acid soaks x 10 min, *Ovine Forestomach Matrix (OFM)/ ECM Highflow with contact layer and NPWT, as well as GV/MB/PVA for the tunnels and for control of hypergranulation or rolled edges facilitated closure of a large wound without the need for plastic surgery, without anatomical deformities or loss of function. Goal attained: wound closure with 100% pain free range of motion to allow for sitting and all ADLs.

Week 2



Measured 19.0 x 6.5 x 6.0 with 4.0cm tunnels at 11 and 1 o'clock. MB/GV/PVA at tunnels, Ovine Forestomach Matrix (OFM)/ECM at base with contact layer and NPWT changed 3x/week. DC Home at 2.5 weeks. Pain 5/10.

Measured 17.0 x 4.5 x 3.0 with 2.0 cm tunnels at 11 & 1 o'clock. MB/GV/PVA at tunnels, Ovine Forestomach Matrix (OFM)/ECM at base with contact layer and NPWT. Frequency decreased to 2x/week. Pain 4/10

Week 13



Excellent progression with epithelialization. Measured 8.0 x 1.5 x 0.1 cm NPWT DC at 10.5 weeks. Patient did his own dressing changes using GV/MB/PVA after NPWT was discontinued. Pain 0/10

Week 4



Week 15



Wound has fully closed. Pain 0/10 with mobility including sit to stand transitions and activities of daily living (ADLs).

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