Achieving a successful outcome in a challenging traumatic wound.

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BACKGROUND

Otherwise healthy 31 year old female sustained a traumatic crush injury to her lower limb after being pinned between a motor vehicle and the garage wall of a house.

After a prolonged extraction time of greater than 60 minutes due to the building being at risk of collapse, she was transferred by air ambulance to Base Hospital.

Injuries included right lower limb injury, involving de-gloving from groin to ankle and tibial shaft facture, and haemorrhagic shock requiring Above Knee Amputation (AKA). AKA was performed on admission (7th May).

Fig. 1

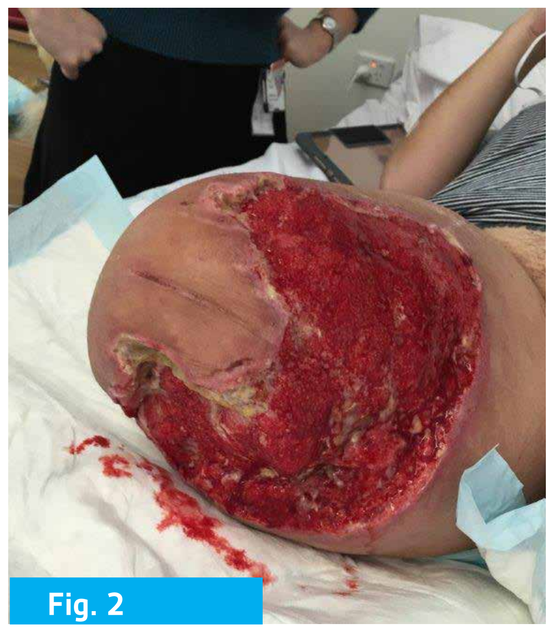

Fig. 2

WOUND HISTORY AND TREATMENT

Wound assessment on day 16 **(Fig. 1)** showed large necrotic demarcation with underlying seroma. Surgical debridement and washout performed and Negative Pressure Wound Therapy (NPWT) applied on day 17.

Patient returned to Operating Theatres (OT) for further surgical debridements on day 20 and 26 and NPWT continued during this period (**Fig. 2** day 23, **Fig. 3** day 29, **Fig. 4** day 34).

On day 35 after consultation with the plastics team, the decision was made to start NPWT with Instillation and Dwell (NPWTi-d) and the Reticulated Open Cell Foam Dressing with Through Holes (ROCF-CC) with acetic acid as the instillation solution to assist with treating heavy growth of pseudomonas.

NPWTi-d with ROCF-CC continued with 3x per week dressing changes with acetic acid solution at therapy settings of 3.5 hours -125mmHg NPWT and 5 minute instill cycle for the next 12 days. During this time the pseudomonas infection cleared, and the wound remained clean with rapid granulation tissue formation. (**Fig. 5**, **Fig. 6**, day 44).

Patient was then able to have a split thickness skin graft (STSG) applied on day 47 which went onto have 100% graft take. (**Fig. 7** day 54).

Fig. 3

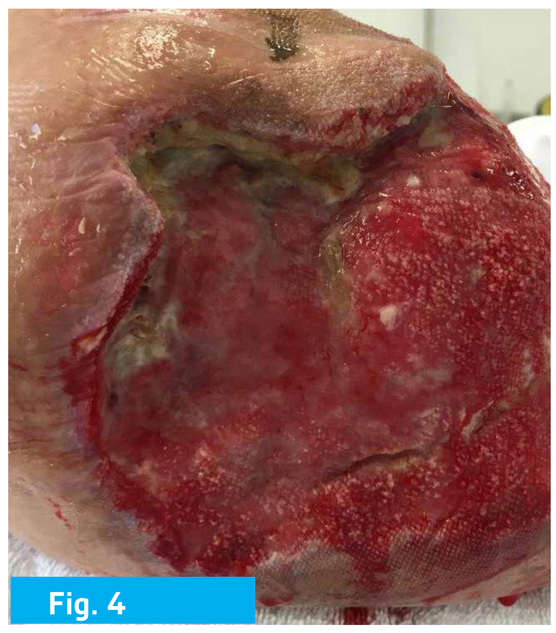

Fig. 4

Fig. 5

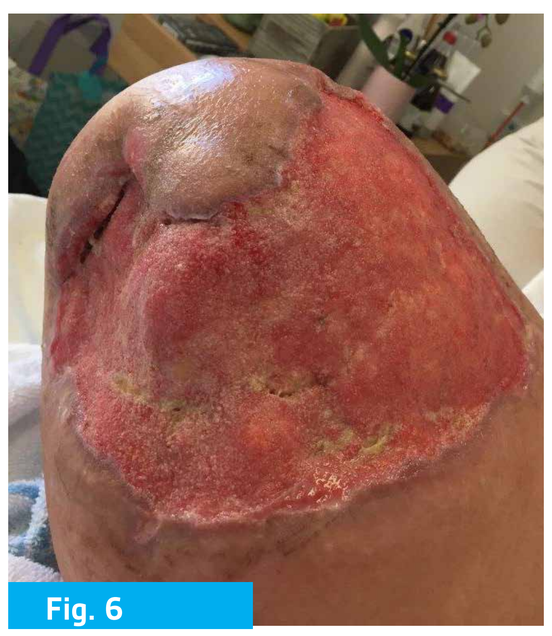

Fig. 6

SUMMARY

- **Multiple surgeries required to debride necrotic tissue.**
- **Application of NPWT to encourage epithelisation.**
- **Commenced NPWTi-d and ROCF-CC with acetic acid to assist with depletion of heavy growth of pseudomonas and assist with cleansing to increase epithelial tissue.**
- **Difficult to granulate medial aspect of stump due to defect during preparation for STSG.**
- **Patient remained positive and happy with a great support network.**

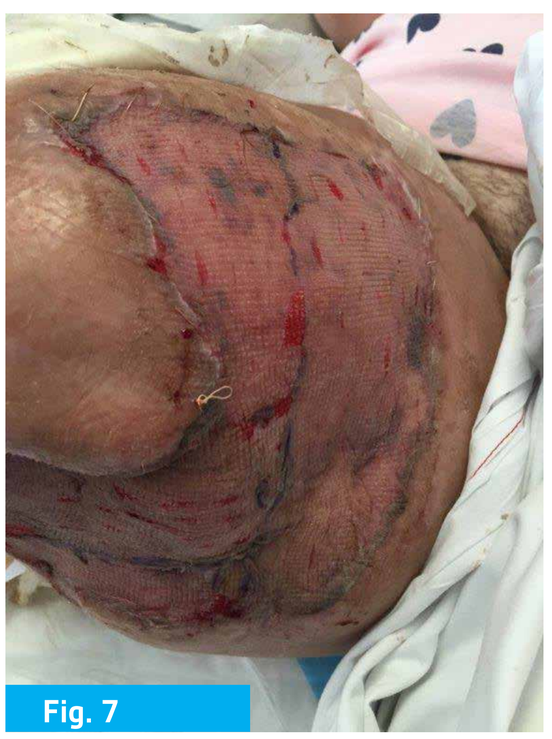

Fig. 7

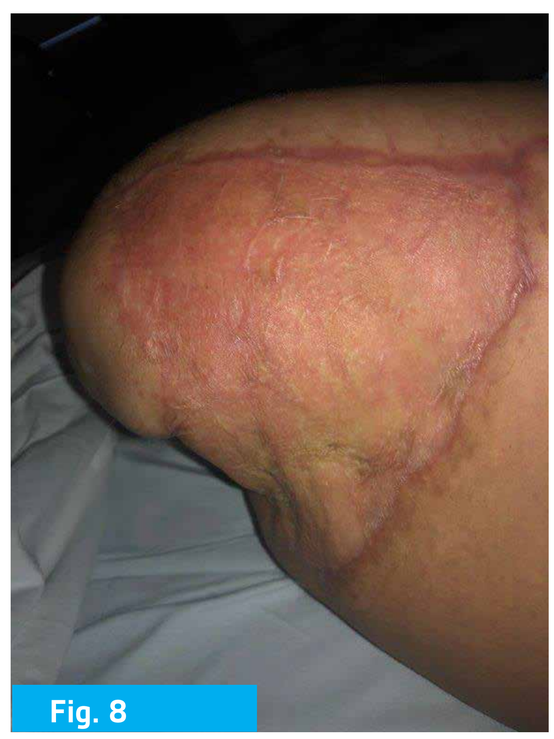

Fig. 8

OUTCOME

STSG 100% healed. (Fig. 8)