Clinical Summary

Novel foam dressing using negative pressure wound therapy with instillation to remove thick exudate

Téot L, Boissiere F, Fluieraru S. Int Wound J 2017; Feb 28. [Epub ahead of print]

Study Type
Retrospective review of patient records (Level IV)

Study Purpose
The purpose of this study was to evaluate a novel wound interface reticulated open cell foam dressing (ROCF-CC; V.A.C. VERAFLO CLEANSE CHOICE™ Dressing) used together with negative pressure wound therapy with instillation and dwell time (NPWTi-d) for managing large complex wounds.

Methods
- A retrospective data analysis on 21 patients with 21 large complex wounds that contained substantial areas of devitalized tissue and/or yellow fibrinous slough were treated in one hospital by several surgeons.
- The ROCF-CC dressing was applied to all wounds using two foam layers: a wound contact layer with 1.0cm diameter holes spaced 0.5cm apart and a cover layer without holes.
  - The wound contact layer was cut to size and placed into the wound bed, followed by an overlay of one or both cover layers (without holes).
- NPWTi-d with saline was delivered with the following settings:
  - Soak time: 10 minutes
  - V.A.C.® Therapy phase time: 3.5 hours
  - Target Pressure: -125mmHg
- Dressings were changed every 3 days at the bedside (L. Téot, written communication, March 2017).
- Pain relief management was administered prior to dressing removal as needed.

Results
- Patient Population:
  - 16/21 (76.2%) patients were male and mean age was 55.4 years.
  - 11/21 (52.4%) patients were paraplegic or quadriplegic.
  - 7/21 (33%) patients received conventional NPWT prior to NPWTi-d with ROCF-CC.
  - 11/21 (52.4%) patients received surgical debridement prior to NPWTi-d with ROCF-CC.
  - 10/21 (47.6%) patients did NOT receive surgical debridement prior to NPWTi-d with ROCF-CC (received autolytic debridement, incomplete excisional debridement using a scalpel or curette, or no debridement following therapy). In these patients, there was either a superficial layer of non-viable tissue or at least 60% fibrin cover.
  - 15/21 (71.4%) patients had a confirmed and treated bone infection.
  - 18/21 (85.7%) wounds were pressure ulcers; 1/21 (4.8%) wounds was a burn wound and 2/21 (9.5%) wounds had necrosis after skin excision.
- Mean duration of NPWTi-d with ROCF-CC was 8.7 days with an average of 2.9 dressing changes.
- Most of the non-viable tissue was removed at the first dressing change after 3 days of therapy.

- After an average of 1-3 applications (3-9 days) of therapy, wound outcomes observed included:
  - Rapid granulation tissue formation observed in 20/21 (95.2%) wounds.
  - Wound bed contained ≤10% percent surface area of black devitalized tissue and yellow fibrinous slough in 18/21 (85.7%) and 12/21 (57.1%) wounds, respectively.
  - A rapid decrease of necrotic and fibrinous tissue was seen at each dressing change in the subgroup of non-surgically debrided wounds with a necrosis/fibrin cover.

Limitations

- This study had all of the limitations of an uncontrolled case series:
  - Large selection biases
  - Lack of consideration of confounding variables

Conclusions

- Based on the preliminary evidence of this evaluation, the authors suggest that "the adjunctive use of NPWTi-d with ROCF-CC may help clean large, complex wounds when complete surgical debridement is not possible or appropriate and areas of non-viable tissue are still present on the wound surface." Furthermore, the authors state that "although the level of the available evidence is relatively low with no randomized controlled trials, there is a consistent trend suggesting that the adjunctive use of NPWTi-d may improve clinical outcomes versus standard wound care, even when that standard is NPWT."

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