Favorable Treatment Outcome Utilizing Combined Active Leptospermum Honey with NPWT to Enhance Removal of Devitalized Tissue and Potentiate Wound Healing

Sandra L. Senno, MD and Kim L. Peters, RN, CWS
Whittier Rehabilitation Hospital, Bradford, MA

THEORY
Complicated wounds with a significant amount of slough require prolongation of treatment, numerous surgical debridement procedures, removal of contaminated skin and several weeks of concurrent antibiotic therapy. A negative pressure wound therapy (NPWT) dressing was applied to the abdomen for additional wound debridement. The patient required multiple episodes of abdominopelvic surgery, abdomen incision procedures, removal of abdominal mesh and several weeks of concurrent antibiotic therapy. A negative pressure wound therapy (NPWT) dressing was used for the abdomen.

ANTI-INFLAMMATORY EFFECT
Inflammation promotes healing and can cause further tissue damage. Reduced inflammation following application of ALH has been noted in biopsies of tissue treated with ALH. Thus it could be attributed to honey’s anti-inflammation or debridement effect, but later it is utilized to remineralize and recondition which stimulates cytokine release and modulation of the inflammatory response. The anti-inflammatory effect reduces pain and the opening of blood vessels thereby reducing edema and exudates.

OUTCOMES
The combined use of ALH and NPWT for three weeks resulted in the almost complete obliteration of slough, decreases in undermining and wound connection, promotion of granulation tissue, concurrent decrease in wound pain and significant decrease in wound dimensions. Once the ALH was initiated adjuvant surgical debridement was no longer required to achieve or enhance results. There was no adherence of the NPWT dressing, regardless of the application of ALH. The combination of topical medical grade ALH and NPWT is thought to reduce the amount of devitalized tissue, decreases in undermining and wound connection, promotion of granulation tissue, concurrent decrease in wound pain and significant decrease in wound dimensions. Once the ALH was initiated adjuvant surgical debridement was no longer required to achieve or enhance results.

METHODOLOGY
A retrospective case study evaluating the combined application of ALH placed directly onto the wound bed followed by the application of NPWT, at 125 mm Hg, continuous suction, with wound care changes occurring every 3-4 days. A total of three weekly 3-lane applications of ALH followed by NPWT was utilized. ALH was instilled adjuvantly to neutral conditions such as undermining, tunneling, period of slough, undermining and amount of pain. At the end of this study there was 95% reduction in slough combined with significant contraction of the wound bed. NPWT treatment was continued for three weeks then discontinued. A topical silver non-adherent foam dressing was used until the wound completely healed by the time of final discharge.

CONCLUSION
A combined modality of NPWT decreased pain, inflammation, and edema and was a safe and effective technique to limit the amount of devitalized tissue and promote faster wound healing. This is a unique case study wherein ALH was implemented in further substantiate the exponential benefits of combination therapy utilizing ALH and NPWT.