The Combined use of Sharp Debridement and Manuka Honey dressing* for the Management of Necrotic Tissue in Chronic Lower Extremity Wounds

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INTRODUCTION
The reduction or elimination of necrotic tissue in chronic wounds is an essential component of successful wound healing. Failure to consistently remove necrotic tissue is a recognized impediment to epithelialization and a vehicle for increased bioburden. Sharp debridement is a trusted method to reduce devitalized tissue. However, necrotic tissue is known to clinically recur between serial debridement and clinicians often try to select wound dressings that will impact or diminish the regrowth of necrotic tissue.

BACKGROUND
Leptospermum (Manuka) honey dressings are gaining popularity and use in the management of chronic wounds. Manuka honey provides a moist wound environment that promotes autolytic debridement of necrotic tissue as exudate is transferred to the secondary dressing through an osmotic pressure gradient. Exudate that emerges from the subcutaneous layer through osmosis is known to reduce necrotic tissue in the wound surface. However, there is a lack of clinical trials that show reduction in necrotic tissue with the use of medical grade honey dressings. Furthermore, to the author’s knowledge, there is no previous report that demonstrates the combined benefit of sharp debridement with Manuka honey dressings.

METHOD
10 patients (3 men, 7 women) were selected for inclusion in this trial. Inclusion criteria included the presence of a lower extremity wound of greater than 30 days duration, the presence of at least 50% necrotic tissue in the wound base, and a willingness to participate with dressing changes and weekly follow up appointments. Patients were excluded who had known peripheral arterial disease (ABI < 0.7), clinical signs of infection (erythema, increased temperature, malodor), known sensitivity to Manuka honey, or unable to tolerate clinical sharp debridement.

The wounds were treated with either a honey based contact layer or gel* depending on the individualized need or character of the wound base. The honey based contact layer (gauze) was selected for those wounds with greater wound exudate. Secondary dressings were selected based on materials appropriate for the wound environment and/or to maintain a moist wound bed. For example, an unna’s boot or four-layer compression system was utilized if leg edema was an impediment to wound healing. The honey dressing was changed as frequently as each unique wound required to keep the wound moist and to manage exudate or edema.

DISCUSSION
Multiple choices are available to the wound care clinician when choosing appropriate dressings for chronic wounds. Wound care is dictated by the needs of the wound. Honey dressings have many properties that are conducive to wound healing such as maintenance of a moist wound healing environment. There is an abundance of literature that supports the clinical use of honey in wound management. Medical grade honey has been shown to be effective in multiple randomized clinical trials. The use of medical grade honey has also been demonstrated shown effective in multiple wound management case series.

Sharp debridement in effect changes a chronic wound into an acute wound. Wound healing centers where patients were debrided more frequently were associated with higher rates of wound closure in both VLU and DFU patients.

CASE #1
A 53 year-old female presented with a one month old slow healing leg ulcer secondary to trauma. It measured 7.0 cm x 6.0 cm x 0.7 cm on initial exam. The wound was visually assessed and the amount of necrotic tissue estimated at 70%. (Figure 1) Sharp debridement was performed and the Manuka honey gauze dressing was applied. Secondary dressing consisted of non-adhesive foam and an Unna’s boot. Sharp debridement was repeated the following week. No further sharp debridement were needed. The Manuka honey gauze dressing and Unna’s boot dressing was changed twice weekly. Four weeks after initiation the wound was assessed as 100% granular with no devitalized or necrotic tissue present (figure 2).

RESULTS
In all 10 patients, the reduction of necrotic tissue was clinically observed within the wound (see graph). 8 out of the 10 patients (80%) accomplished a clean (100% granulation) tissue base in 5 weeks or less. Wound size was reduced in all patients followed and all patients reported no pain or discomfort related to the Manuka honey dressing. Sharp debridement was performed at 55% of the weekly test visits. Arrows on graph represent episodes of sharp debridement.

CONCLUSION
Many clinicians opt for the use of moist wound dressings that promote autolytic debridement as an alternative to sharp wound debridment. This is primarily the case when surgical or conservative sharp debridment is not an option. The results of this small observational case study, demonstrate that the moist wound environment that promotes autolytic debridement from a Manuka honey dressing may be a useful adjunct to serial sharp debridement.

Future studies are needed to further demonstrate and evaluate the clinical use of this combination.

REFERENCES

*Therahoney® is a registered trademark of Medline Industries, Inc.