**Introduction**

An independent, 75 year old Type 2 diabetic gentleman, with restricted mobility, was referred to District nurses for dressings to a cellulitic leg. On assessment, he had developed 3 ulcers to his left calf which he had previously been dressing himself.

- **Ulcer 1** - 14cm x 7cm, thick slough with some necrotic tissue
- **Ulcer 2** - 3cm x 2cm, thick slough
- **Ulcer 3** - 2cm x 1cm, thick slough

The yellow, fibrous slough present in all three wounds, was inhibiting healing and providing an environment for bacterial growth. Once this depth of slough was removed, it was anticipated that deep cavities would be revealed. The ulcers were offensive due to the presence of infection. Medium levels of exudate were recorded. Mr X, a variable, non-compliant diabetic was on antibiotic cover at this stage. His blood-glucose level was checked and was raised to 9.2 mmol. Intermittent pain was reported.

**Method**

For the first two weeks an alternate day’s dressing regime was commenced. The aim was to de-slough the ulcers and contain the exudate. The de-sloughing agent used was not effective and appeared to be increasing exudate volume. The ulcers remained malodorous. Swab results showed signs of bacterial growth so further antibiotics were prescribed. A decision was made to surgically debride as much of the slough as possible and perform a Doppler assessment. From the results of this assessment monophase pulses were found to be strong. ABI = 1.29, indicated calcification and mixed aetiology of the circulatory system. Light compression could therefore, be applied with caution.

Mesitran Ointment which contains 47% medical grade honey was applied to the remaining thick slough. The ointment was secured with Mesitran Border dressing containing a further 30% medical grade honey. Light compression therapy, with extra padding applied to the outside of the bandaging, ensured that any increase in exudate levels was contained. Mesitran Ointment was left undisturbed for 3-4 days at a time.

Results

After two weeks of twice-weekly dressing changes, large areas of slough were removed to expose healthy granulating tissue. Cavities were exposed up to 3 cm in depth in one ulcer. The margins of the ulcers were rounded with their bases showing signs of granulation. The exudate level was subsiding and the ulcers were less offensive.

At dressing change, Mesitran Ointment had changed composition to form a gel of brown/golden crystals which appeared to be containing the exudate and hydrating the wound. A wound swab was obtained which indicated that no infection was present. This supported the evidence that pure honey does not hydrate bacteria thus limiting migration of bacterial growth. (Cooper, Harding 2002).

No pain was experienced at dressing change or discomfort from any drawing effect when Mesitran dressings were in place. This encouraged compliance. Mr X’s blood glucose levels were checked regularly. He maintained a BG reading of between 6 - 7.8 mmol. Medical grade honey applied to his ulcers had not adversely affected his glucose levels.

After 8 applications of Mesitran the ulcer had dramatically improved. Virtually all slough had been removed and the ulcer had decreased in size. 16 applications of Mesitran Ointment and Border dressing, aided granulation and the ulcer de-sloughed completely.

42 applications applied over 20 weeks virtually healed the ulcer. A dry dressing regime was adopted to enable the scabbed area to fall away.

**Conclusions**

- Extensive debridement was achieved
- Exudate levels were managed
- Tissue granulated rapidly
- Bacterial properties of medical grade honey, prevented further infection
- The selected regime was pain free even at dressing change
- Mesitran Border dressing allowed moisture transfer of excess exudate
- A moist wound-healing environment was maintained
- Ablation was not evident
- Healing rate improved
- Peri-wound skin integrity was maintained
- Patient comfort was achieved throughout
- The deodorising effect of honey was appreciated by both patient and nurses
- Honey had no detrimental effect on blood glucose levels, despite Type 2 diabetes status

Belinda McIntyre is a level 4 nurse. She qualified in 1999, and has a particular interest in Tissue Viability and Wound Care.