An observational study of a honey impregnated dressing (MelMax®) in the treatment of wounds

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MelMax®

Background

The historical and current literature reports the successful use of honey to manage a diversity of wound aetiologies. However, only in the last 40 years is research on its mode of action and contribution to wound healing being investigated (Gethin and Cowman, 2005). Honey has been shown to reduce Pseudomonas in wounds (Cooper and Molan 1999) and has antiseptic properties, possibly with the same osmotic action as sugar. Honey, placed cutaneous on wounds, accelerates the healing process (Gethin and Cowman 2005: Oryan and Zaker 1998). In fact, positive findings on honey in wound care have been reported from 17 randomized controlled trials involving a total of 1965 participants, and 5 clinical trials of other forms involving 97 participants treated with honey. The effectiveness of honey in assisting wound healing has also been demonstrated in 16 trials on a total of 533 wounds on experimental animals (Molan 2006).

Aim

The purpose of this study was to evaluate the efficacy of MelMax®, a honey impregnated dressing in achieving wound healing in intractable and common types of wounds found in patients in the community and to gain experience of the dressing in order to provide guidance to clinicians.

Method

This was a simple evaluation based on the design of a prospective, descriptive, evaluative, non-blinded clinical study. These were individual case studies with a sample size of 31 patients with one or more recalcitrant wounds (non-healing wounds present for more than 3 months). Where possible, the study duration was 6 weeks or more for each patient and information was collected on the use and application of MelMax®.

Photographs were taken weekly and the wound was assessed and dressed by the Tissue Viability Consultant at each visit. Data on the last six months care, including dressings used and nurse visits. Data collected included the experience of each nurse in caring for the individual wounds prior to treatment. Also included was: the wound size using planimetry measurement; width-to-length ratio; the patient's age and nutritional status; elapsed time from wound appearance to the beginning of the treatment; depth of the wound and location and type of treatment previously applied.

Results

The results demonstrated that the pH reduced, wound odour reduced in each case, it was comfortable for the patient and healing rates were positive in each case with 5 wounds healing within the six weeks.

Conclusion

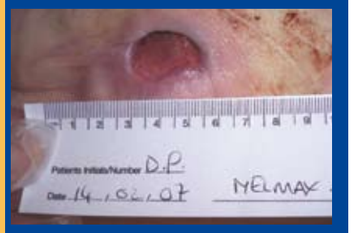
MelMax® is a simple method of delivering honey to a wound and has been demonstrated to be a cost effective and clinically effective dressing as shown in these 31 case studies.

References

Cooper, R., Molan, P. (1999) The use of honey as an antiseptic in managing *Pseudomonas* infection. *Journal of Wound Care*. **8**:4. 161-164.
Gethin G, Cowman S. (2005) Case series of use of Manuka honey in leg ulceration. *Int Wound J*. Mar;2(1):10-5
Molan PC. (2006) The evidence supporting the use of honey as a wound dressing. Int J Low Extrem Wounds. Mar;5(1):40-54.
Oryan A., Zaker S.R., (1998) The effects of topical application of honey on cutaneous wound healing in rabbits. *Zentralbl Veterinarmed* A Apr;45(3):181-188

A selection of the case studies using MelMax®

Day 0



Day 58

Case Study 1

(Patient DP)

Mrs DP was a 75 year old lady, resident in a nursing home, who had a grade 4 pressure ulcer of 4 months duration. She was immobile, sitting in the chair for most of the day and was a non-smoker. Mrs DP's Waterlow Score was 22 and she had an alternating air mattress on her bed.

Day 0: Figure 2 The wound was slightly sloughy and there was a medium level of haemoserous exudate, which was malodorous. The surrounding tissue was breaking down.

Mrs DP gave a pain rating of 0 (no pain). The wound measured 3cm x 2.2cm which is a surface area of 6.6cm^2. Dressings were changed daily. Wound management objectives were to clean the wound bed and prepare for healing.

Day 58: The wound was clean and healthy with excellent granulation tissue. The lack of odour suggests that bacterial colonisation had been reduced. Dressings were changed every 3 to 4 days.

Day 0

Day 16

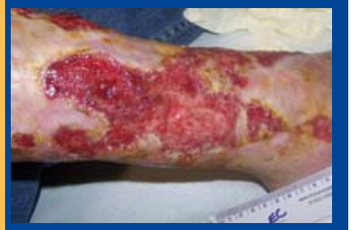
Case Study 2

(Patient RM)

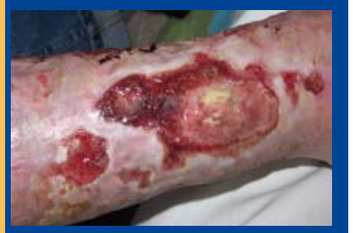
RM was a 78 year old lady who was resident in a nursing home, suffering from Multiple Sclerosis and had developed a pressure ulcer on her ischial tuberosity 4 months previously. She was a non-smoker. Mrs RM's Waterlow Score was 24 and she had an alternating air mattress on her bed and remained on bed rest.

Day 0: The wound contained necrotic and extremely malodorous tissue with heavy amounts of exudate. The surrounding tissue was fairly healthy and the patient gave a pain rating of 4 on a score of 1-10 (10 being terrible pain). The wounds measured 8.5cms by 6.8cms (surface area 57.8cm^2) with a depth of 5cm. Wound management objectives were to debride the wound, reduce colonisation and to promote healing. pH was 8.

Day 16: Clean wound with evidence of granulation. The exudate levels were still high, but now serous rather than purulent. Much of the malodour had diminished. Wound management objectives at this point were to promote granulation. This was RM's final assessment, as she sadly died the following week.



Day 0



Day 36

Case Study 3

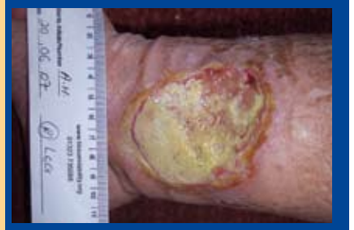
(Patient FW)

Mr FW retired 5½ years ago. On the very day of his retirement, he developed wounds which were largely due to low arterial supply. He had received a Femoral Popliteal By-pass 25 years previously.

Assessment showed highly exuding, extremely painful and malodorous wound. His ankle joint was fixed and pain in his wounds were so great, he could only walk (on crutches) on the ball of his foot. His wife was very unhappy about the odour as it caused her to feel nauseas.

Day 0: Measurement was taken from the largest wound from the top to bottom and then from the largest area width. The wound measured 8.5cm by 21cms (total surface area of 178.5cm^2). Management objectives were to reduce colonisation and promote epithelial tissue

Day 36: The wound continues to heal and the surrounding skin is clean and healthy. There is no odour present, Mr FW has not experienced pain since the first week and he no longer changes the outer dressings between visits to the practice nurse. 9cms by 4cms (total surface area of 36cm^2)



Day 0

Day 63

Case Study 4

(Patient IH)

Mrs IH was an 81 year old lady with Parkinson's disease who was resident in a nursing home. Medication was Prednisolone 2mg daily which is not conducive to wound healing. She had a right leg venous ulcer of 10 months duration and her legs were very oedematous. Her ABPI was 0.8. The ulcer and the oedema were treated with Iodosorb dressings and compression.

Day 0: The wound contained 95% slough with low serous exudate. Mrs IH gave a pain rating of between 1 and 3 (on a visual analogue scale of 1 to 10, with 10 being the worst pain possible). The wound measured 7cm x 6cm (total surface area of 42cm^2). Wound management objectives were to debride the wound and promote granulation.

Day 63: The dressing wear time had been 7days. The wound bed had 80% pure granulation tissue and the small amount of slough was soft and granulation was showing through. There was a moderate level of serous exudate. The wound measured 6.5cm x 3.5cm. The surrounding tissue was healthy and Mrs IH gave a pain rating of 0 (no pain). Wound management objectives were to continue promoting granulation and epithelialisation.

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