Letter to the Editor

Infection prevention in wounds with Surgihoney

Madam,

Evidence does not seem to support the use of honey in wound care, but we believe it could make an important contribution to soft tissue health and enhance infection prevention. A recent trial concluded that honey could not be recommended for the prevention of peritoneal-dialysis-related infection. A review using Cochrane methodology was also equivocal about the clinical benefits of medicinal honey for treating wounds. In contrast, we support the use of honey for wound healing and infection prevention using Surgihoney (Healing Honey International, Bicester, UK). This is a novel topical agent based on organic honey, and it was not available for inclusion in the referenced studies. More recent studies have shown that it has superior antimicrobial activity over other types of honey.

It is, perhaps, a mistake to regard this product as honey, which is a raw material. Manuka honey is less antimicrobial than Surgihoney, which is processed to enhance its antimicrobial properties by delivering sustained and controllable oxygen free radicals. Honey is the delivery vehicle, but much of the active ingredient is sustained delivery of oxygen free radicals over a prolonged period.

Surgihoney is highly active against Gram-positive and Gram-negative bacteria, including multi-drug-resistant (MDR) bacteria. Different strengths with varying potency can be produced. Early clinical evidence has shown its efficacy in superficial wound healing and decolonization, and the prophylaxis of surgical site infections. A more recent evaluation demonstrated the properties of Surgihoney in clearing bacterial colonization of long-line exit sites in oncology patients, where it appears to be better tolerated than chemical antiseptics.

Surgihoney has shown low toxicity in all of these studies, and its simple application makes it ideally suited for use in developing health services and in areas where MDR organisms are endemic. Surgihoney has been very effective in clearing colonization of resistant organisms, and, if used more widely in wound care, might reduce excessive use of antibiotics while reducing transmission and dissemination of MDR bacteria. This is illustrated by the following clinical examples.

Case 1: a 48-year-old female with a Hickman line for delivery of chemotherapy for breast cancer was found to have an oozing line exit site. There was no surrounding inflammation. A swab yielded a carbapenemase-producing *Escherichia coli* (CPE). This patient was not in a particular risk group for CPE. She had not been in a hospital in the UK where there was known to be transmission. She had not been in a hospital abroad. She had, however, travelled extensively in Europe and Asia for work while she had the Hickman line in situ. Stool screening for CPE was negative. Surgihoney was applied to the line exit site at each visit and on redressing at home, and oozing at the exit site resolved. Line exit site screening on three occasions after two weeks showed eradication of CPE. The use of antibiotics was not necessary.

Case 2: a neonate returned from a tertiary centre following abdominal surgery for intussusception. The surgical site was mildly inflamed and culture yielded meticillin-resistant *S. aureus* (MRSA). Topical Medihoney failed to clear MRSA after four days. Surgihoney eradicated MRSA after four days of topical application, and the wound healed without recourse to antibiotics.

Case 3: a 70-year-old man with an extensive supramalleolar ischaemic ulcer was heavily colonized with *Pseudomonas aeruginosa*, mixed coliforms and vancomycin-resistant enterococci. The ulcer exuded green pyocyanin containing slough. Topical application of Surgihoney for eight days eradicated most of the bacterial bioburden, leaving a clean granulating ulcer base (Figure 1). The use of antibiotics was not necessary.

These cases demonstrate the excellent antimicrobial activity of this honey-based treatment, and its efficacy in eradicating colonization of MDR bacteria. Although further randomized controlled trials are required, Surgihoney has considerable therapeutic and infection prevention potential for the management of superficial lesions and open cavities that may be colonized with MDR bacteria.

MDR microbes pose an increasing threat in healthcare facilities and in public health. The use of non-toxic, highly antimicrobial agents such as Surgihoney to reduce superficial colonization in wounds and cavities with MDR bacteria may lead to a consequent reduction in their transmission and in the requirement for antibiotics to treat infections. Novel strategies are required to combat this threat of global antimicrobial resistance, and Surgihoney may be one such ‘low-tech’ and simple approach. Further research is being undertaken to determine the activity of Surgihoney on bacterial biofilms in wounds, cavities and mucosal surfaces; anatomical sites where antibiotics perform poorly but where a topical agent such as Surgihoney may have significant antimicrobial activity. Once commercially available, Surgihoney may help to reduce the use of antibiotics and selective pressure, while promoting soft tissue and mucosal healing, and enhancing the prevention of infection.
Conflict of interest statement
None declared.

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References

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