

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/6884751>

Topical manuka honey for MRSA-contaminated skin ulcers

Article in *Palliative Medicine* · August 2006

DOI: 10.1191/0269216306pm1160xx · Source: PubMed

CITATIONS

26

READS

542

1 author:



[John Chambers](#)

Worcestershire Acute Hospitals NHS Trust

19 PUBLICATIONS 71 CITATIONS

SEE PROFILE

Letter to the Editor

Topical manuka honey for MRSA-contaminated skin ulcers

This paper reports on three hospice patients for whom topical manuka honey (MH), applied daily, improved ulcers contaminated with methicillin-resistant *Staphylococcus aureus* (MRSA).

A 59-year-old male with prostate cancer and multiple sclerosis bought a new wheelchair without a proper fitting session. He developed a painful ulcer on his right buttock, measuring 10 × 5 cm. It contained hard dead tissue, contaminated with MRSA and anaerobes. Proprietary MH dressings failed to induce healing. MH was applied directly to the ulcer, with visible improvement after four days. At 10 days, it desloughed to reveal a granulating cavity 12 cm deep. This was packed daily with gauze soaked in MH. Wound swabs were negative for MRSA and other pathogens 15 days after starting topical MH, and a full MRSA screen was negative. With continued MH application, the ulcer healed to a depth of 4 cm. This was discontinued in the community shortly after hospice discharge. The healing subsequently deteriorated and the ulcer became colonized by *Staphylococcus aureus* and *Pseudomonas aeruginosa*. The patient became progressively debilitated and died five months later.

A 65-year-old male became paraplegic despite spinal decompressions, spinal stabilization, strontium therapy, palliative chemotherapy and palliative radiotherapy for cord compression from a prostate cancer. He took lifelong amoxicillin for chronic osteomyelitis and developed a sacral ulcer, contaminated with MRSA and covered by a thick crust of dead tissue. The diameter grew to 6 cm despite the use of proprietary MH dressings. The crust shed within 48 hours of applying MH, revealing healthy granulation tissue. A repeat swab 10 days later was MRSA-negative. The ulcer continued healing until his death from carcinomatosis 18 days later.

An 86-year-old male with peripheral vascular disease and peripheral neuropathy suffered years of painful MRSA-contaminated leg ulcers. The malodorous exudates rapidly drenched his dressings and clothing, socially isolating him. The malodour disappeared within 48 hours of topical MH application, and exudates reduced by two-thirds. Swabs remained MRSA-positive at seven and 17 days. Pain diminished but ulcer sizes did not. A full-body MRSA screen was positive at all

sites. He declined MRSA eradication therapy, but had sustained symptomatic benefit from topical MH until he died in his sleep 43 days after starting topical MH therapy.

Strong sugar solutions can heal cavity wounds, but *Staphylococci* are more resistant to their bactericidal properties than other bacteria.¹ Honey is bactericidal at much lower sugar concentrations, largely due to low levels of hydrogen peroxide produced by glucose oxidase.^{2,3} Catalase removes this and strips most honeys of their anti-bacterial properties. MH is one of the exceptions, perhaps due to trace levels of flavanoids and non-aromatic organic acids derived from manuka flowers.⁴

Pollinating insects are microbial vectors. The primary evolutionary purpose of nectar might have been the protection of plant reproductive organs rather than the attraction of insects. Bees enhance these anti-microbial properties in honey by adding glucose oxidase. In contrast to man-made antibiotics, honey has confounded bacterial resistance for millions of years. Perhaps we should consider its wider use in medicine.

John Chambers,
Macmillan Consultant and Medical Director,
Katharine House Hospice,
East End, Adderbury,
Oxon, OX17 3NL, UK
E-mail: dr.ch@mbers.info

References

- 1 Seal DV, Middleton K. Healing of cavity wounds with sugar. *Lancet* 1991; **338**: 571–72.
- 2 Cooper RA, Molan PC, Harding KG. The sensitivity to honey of Gram-positive cocci of clinical significance isolated from wounds. *J Appl Microbiol* 2002; **93**: 857–63.
- 3 Taormina PJ, Niemira BA, Beuchat LR. Inhibitory activity of honey against foodborne pathogens as influenced by the presence of hydrogen peroxide and level of antioxidant power. *Int J Food Microbiol* 2001; **69**: 217–25.
- 4 Mato I, Huidobro JF, Simal-Lozano J, Sancho MT. Significance of nonaromatic organic acids in honey. *J Food Prot* 2003; **66**: 2371–76.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.