

## **CASE REPORT**

**The use of honey in healing a recalcitrant wound following surgical treatment of hidradenitis suppurativa**

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Ancient civilizations used honey to heal wounds. Despite the rediscovery of honey by modern physicians<sup>1</sup> its use in conventional medicine, unlike in complementary medicine, remains limited. Much anecdotal evidence, some clinical observations, some animal models and some randomised controlled trials support the efficacy of honey in managing wounds<sup>2,3</sup>, but few detailed descriptions of the use of honey in healing difficult surgical wounds have previously been published.

### **Case report**

In March 1999 a 38-year-old female with a non-healing surgical wound of 36 months duration in her left axilla requested treatment with honey. She had been suffering with Hidradenitis Suppurativa (HS) in the left axilla since the age of sixteen, when she underwent an incision and drainage of an abscess in this area. This procedure was repeated in 1991 and again in March 1996. Her right axilla, inframammary folds and groin were unaffected and the patient was otherwise fit and healthy. Wide excisions of chronic indurated, non-healing tissue from the left axilla were performed in March 1997 and March 1998, but the wound created in March 1996 failed to heal. From April 1997 the wound was managed by a team of wound care specialists and a wide range of dressings was applied to the wound between April 1997 and February 1999 with limited effect. Progress to healing was complicated by recurrent wound infections and *Staphylococcus aureus* was isolated on five occasions in addition to a number of other organisms. Antimicrobial therapy included Co. Amoxiclav, ciprofloxacin, flucloxacillin, metronidazole, Flamazine (silver sulphadiazine) and Inadine (povidone-iodine). The patient had limited abduction of her shoulder as a result of scarring, and complained of a painful wound. In an attempt to re-introduce healthy undamaged skin to the area and to improve the range of shoulder movements, further surgery was performed in November 1998: the scarred area was excised and covered by a rotational skin flap. Initially this resulted in improving the range of movement of the shoulder joint, but the distal end of the flap broke down three months later, and *Staphylococcus aureus* was again isolated. It was at this point (having endured four operations and 36 months of failure to heal) that the use of honey was requested by the patient.

At this time the infected wound measured 2.3 x 2 cm. Co. Amoxiclav was prescribed for 7 days in view of the appearance and previous bacteriology results and Combine dressings (Smith & Nephew) impregnated with 25-35g active manuka honey and sterilised by gamma radiation were applied to the wound and covered by absorbent pads to collect excess honey. The manuka honey used had an activity rating of "UMF 13", *i.e.* it had a non-peroxide antibacterial component with activity against *Staphylococcus aureus* ATCC 25923 equivalent to that of 13% phenol. The patient was provided with honey dressings and instructed to re-dress the wound at 24 hour intervals, following showering. The wound was monitored and swabbed at weekly visits to clinic. One week after the treatment commenced the wound measured 1.7 x 1.3 cm, and no bacterial growth resulted from the wound swab. After a further week the wound measured 0.5 x 0.6 cm, and the patient reported loss of all pain and discomfort and demonstrated greatly improved mobility of the arm and shoulder. Healing occurred within one month of initiating the treatment, but discontinuation of the honey lead to immediate tightening of the scar and superficial splitting of the newly formed scar on three occasions. Each time re-application of the honey promoted rapid healing, softening of the scar and cessation of pain. Four months after the initial wound closure, the patient discontinued the honey dressings and maintained a flexible, healed scar with daily application of a barrier cream. The patient was discharged in October 1999.

### **Comment**

A noticeable improvement in the appearance of this long-standing wound was observed within a week of applying the honey-impregnated dressings. It became smaller, less inflamed, and the already healed, scarred area became softer to touch. Bacteria were inhibited within 7 days and the recurrent infections ceased. Honey dressings did not adhere to or irritate the wound, and were easily and painlessly renewed. The patient found the dressings convenient to use, and reported improvements in comfort and mobility, and significant loss of pain. The application of dressings impregnated with manuka honey to this recalcitrant wound promoted healing within a month, where management using conventional dressings had failed to achieve healing in 36 months. Although the mechanisms by which honey enhances healing are not yet characterised at a molecular level, the potent antibacterial properties of selected honeys have been demonstrated *in vitro*<sup>4,5</sup> and *in vivo*<sup>6-9</sup> Recurrent infections would have

impaired healing in this patient, but the additional well documented vulnerary properties of honey such as its anti-inflammatory action<sup>7</sup>, debriding action<sup>8</sup> and its stimulatory effect on granulation and epithelialisation<sup>7,8</sup> may have contributed to the healing effect. Randomised clinical trials with further patients, and laboratory studies on cellular effects are urgently needed to explore the healing properties of honey.

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