Use of Active *Leptospermum* Honey for a Pediatric Patient with Hydradenitis Suppurativa

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**Hydradenitis suppurativa (HS)** is a chronic, debilitating disorder, sometimes described as a severe form of acne, occurring deep in the skin around sebaceous glands and hair follicles of the axilla, inguinal canal area, and perineum where the apocrine sweat glands are located. Prevalence in the US population is estimated 1% to 2%, and affects more women than men, and onset usually occurs between puberty and 40 years of age. Although the exact pathophysiologic mechanisms are unknown, contributing factors include axillary adiposity, sweat, heat, stress, tight clothing, genes, and hormones; obesity, bacterial infection, and smoking are also considerations. Other disorders associated with HS include Crohn’s Disease, Dowling-Dego’s Disease, and anthropathy.

Although progression varies among individuals, HS ranges from occasional lesions of the axilla to frequent recurrence with diffuse abscess, chronic draining sinus tracts, scarring, fistula formation, and nonhealing. This complicated disorder may be classified as mild, moderate, or severe (also described as first, second, or third stages). Initially, there may be discomfort, itching, erythema, burning, and hyperhidrosis with tender nodules, superinfection, and malodorous exudate. Complications may include contraction of the dermis (in severe cases this may restrict limb mobility), local or systemic infection, arthritis from inflammatory injury, squamous cell carcinoma, lymphedema, fistulas of the rectum or urethra, amyloidosis, and anemia.

Treatment varies depending on presentation and severity and should include preventive, medical, surgical, and psychological strategies. Some improvement may be achieved through conservative management that includes antibiotic and/or hormone therapy, oral retinoids, and immunosuppressive therapy; severe cases involving chronic sinus tracts and fistula formation may require wide excision and closure with skin grafts.

In an acute phase, purulent nodules are incised and drained, a culture and sensitivity is performed, and appropriate antibiotic therapy is prescribed. Organisms such as *Staphylococcus*, *Escherichia coli*, B-hemolytic streptococcus, enteric flora, and anaerobic bacteria may be found depending on the location of the lesions. The majority of HS cases are recalcitrant to therapy and there is no evidence that chronic antibiotic therapy alters progression. Wide, deep surgical incision is considered the treatment of choice to remove the affected area, including the apocrine glandular area and adjoining tissue; the resulting wound is not amenable to primary closure. Skin grafts combined with negative pressure wound therapy (NPWT) often are prescribed. NPWT is thought to increase resistance to infection and improve bacterial clearance; however, studies have not supported this theory.

Evidence is increasing for using active *Leptospermum* honey (ALH) as a primary dressing for managing exudate, necrotic tissue, infection, and inflammation in stalled wounds. *Leptospermum* honey’s antibacterial effect has been documented in vivo and in vitro for many organisms found in chronic wounds, even those with antibiotic resistance. ALH can be used alone or with other treatment modalities to improve the healing cascade; it displays significant antibacterial effects. The combination of properties is an important tool for addressing chronic wounds that have failed to progress.

The following case study and clinical experience in the author’s children’s hospital supports these findings.

**Case Report**

A 17-year-old young man with a 3-year history of HS had recurring episodes of abscess formation in both axillary areas. The lesions were painful, disfiguring, and debilitating, leading to multiple treatment episodes that included medical and surgical care. A wide excision was performed, resulting in right and left axillary wounds measuring 12.0 cm x 7.8 cm x 4.5 cm (see Figure 1) and 14.0 cm x 9.0 cm x 4.5 cm, respectively. Pathology reports confirmed HS with chronic inflammation and fistula tract formation. Multiple surgical debridements combined with application of NPWT dressings, skin grafts (two), and a variety of topical wound care dressings were used over the course of treatment. All therapies failed to heal the wounds. Odor, pain, and heavy exudate increased and granulation tissue lacked a beefy red color.
A plan of care was developed that included the application of ALH-impregnated colloid dressing (Medihoney® Honeycolloid, Derma Sciences, Inc. Princeton, NJ) for light to moderate exudate as the primary dressing and an absorbent silicone foam dressing as the secondary dressing (see Figure 2). The patient’s mother was instructed on wound care and she changed the dressings at home every other day. With each dressing change, pain, exudate, and odor decreased (see Figure 3). Granulation tissue appearance improved and turned beefy red and the wound continually decreased in size (see Figure 4) and eventually progressed to closure.

Although there is no cure for HS, dressings with ALH helped reduce wound pain, exudate, and malodor and promoted healing in this patient. As a result of this and other cases, ALH is the dressing of choice for pediatric patients in this practitioner’s clinical practice. The dressings demonstrated the ability to promote healing when other modalities were ineffective.

References