Manuka Honey for Treatment of Reoccurring MRSA Skin Infections

As antibiotic resistant bacteria become more prevalent, researchers have examined the use of Manuka honey as an alternative to antibiotics for skin infections. This looks at the problematic nature of antibiotics for the treatment of reoccurring MRSA skin infections and asserts that Manuka honey should not be overlooked as a tool to break the cycle of MRSA skin infections, even in colonized individuals.

The objective of this paper is to provide adequate and reliable evidence that Manuka Honey is a suitable treatment for MRSA skin infections, even in colonized individuals, so that patients have a tool for discussion with their primary care provider about an alternative to systemic antibiotic therapy.

The End of an Era

According to a news brief posted on the American Academy of Pediatrics website, "Canadian researchers reported in Archives of Pediatrics & Adolescent Medicine that the risk of harboring methicillin-resistant Staphylococcus aureus is threefold higher among children who took one or more antibiotics one to six months before they were diagnosed with the infection. The number of antibiotics taken was directly linked to the risk of infection, with those who got at least four prescriptions having an 18-fold increased risk for MRSA, the study of U.K. children found."

In March of 2012, the director-general of the World Health Organization, Dr. Margaret Chan, gave a sobering Keynote address at a conference about combating antimicrobial resistance in Copenhagen, Denmark. Dr. Chan explained:

> "For patients infected with some drug-resistant pathogens, mortality has been shown to increase by around 50%. Let me give an example of what this means for a disease of global significance. Among the world's 12 million cases of tuberculosis in 2010, WHO estimates that 650,000 involved multidrug-resistant TB strains. Treatment of MDR-TB is extremely complicated, typically requiring two years of medication with toxic and expensive medicines, some of which are in constant short supply. Even with the best of care, only slightly more than 50% of these patients will be cured… A post-antibiotic era means, in effect, an end to modern medicine as we know it. Things as common as strep throat or a child's scratched knee could once again kill. Some sophisticated interventions, like hip replacements, organ transplants, cancer chemotherapy, and care of preterm infants, would become far more difficult or even too dangerous to undertake."

She urged her audience to reserve antibiotic use to only when absolutely needed.

If other avenues exist, it would be irresponsible at an individual and a global level to not explore alternative such as Manuka honey for skin infections if the alternative has an equal or greater success rate after treatment, especially because it has been established that antibiotic use increases the risk of that individual developing a subsequent and more resistant MRSA infection weeks later.

Standard Therapy for MRSA

Topical Verses Systemic Standard Treatment Results: No Significant Difference

While potentially serious adverse events can result from both topical and systemic antimicrobial therapy for eradicating nasal and/or extra-nasal MRSA colonization, a review of studies in 2003 found there to be no long term benefit to systemic therapy over topical therapy for reductions in future infections. Similarly, there appeared to be no long term benefit to a combination of topical and systemic therapy over topical therapy alone. Rifampin is an antibiotic commonly prescribed for the decolonization of MRSA. Benefits with the use of Rifampin were observed at 30 days, but after 90 days of treatment for eradication, there was no statistical evidence that Rifampin performed better than topical therapy. Meanwhile, there were documentable adverse events in 20% of the patients that had systemic therapy and all trials that were evaluated showed a result of antibiotic resistance to the antimicrobials that were used (Loeb, et al., 2003). While this documentation is nearly a decade old, it is still very relevant because MRSA has become only more resistant since that review was initially written.

Decolonization Not Associate with Reductions in Infections

Bactroban is commonly used for the eradication of MRSA colonization in specific areas of the body such as the nose. A 2007 study found that the use of Bactroban ointment did not decrease the rate of future infection in the previously colonized individual nor in that individual's group even after successful decolonization was achieved. It also did not prevent new colonization within the individual's group (Falaga, et al., 2007). Another factor to consider, when considering Bactroban as a treatment of colonization, is that by 2007, another study already examined surgical intensive care units patients and found that despite low level use of Bactroban in the hospital, there was a high rate of bacteria that tested resistant to the ointment (Jones, et al., 2007). This is of serious concern, implying a high rate of resistance already found towards Bactroban five years ago.

Chlorhexidine Antiseptic Therapy Results Unacceptable

In 2007, a study examined the efficacy of whole-body washing with a 4% chlorhexidine antiseptic solution and deemed the results limited. 58 patients made up placebo group and 56 made up a treatment group. After thirty days of total body washing, 4 patients from the treatment group were MRSA-free and 7 from the placebo group were MRSA-free. There were also adverse effects noted by almost 40 individuals from the treatment group, though in most cases, the paper said, the adverse effects were reversible (Wendt, et al., 2007).

Current Methods Are Inadequate, Others Must Be Explored

In 2009, agents for decolonization were examined by reviewing previous studies. The results were published in *Pharmacotherapy:The Journal of Human Pharmacology & Drug Therapy.* The authors concluded that while Bactroban ointment is the most effective and was the current protocol, resistance to it is growing and would render it less effective, whole-body washes with antiseptics can be partially effective when combined with Bactroban, oral antibiotics should only be considered when all other decolonization attempts have been used and failed, and that homeopathic and alternative therapies should be considered (McConeghy, et al., 2009). Given that we've previously established that even after decolonization, infection rates are not reduced in the long run, alternative treatment for infection seems the only wise course of action.

Manuka Honey Research Proves Exceptional

Manuka honey has long been used to kill infections and in recent years has been explored extensively by the scientific community as a way of treating MRSA. Manuka honey is a proven antibacterial and research also indicates that it may have the ability to reduce inflammation and stimulate immune response.

The Maxillofacial Unit of the Royal Surrey County Hospital in the UK stated, "We have been using honey-impregnated dressings successfully in our wound care clinic and on the maxillofacial ward for over a year (Bhavin, et al., 2008)."

In fact therapeutic bandages with Manuka honey (Medihoney and Active Manuka honey) have already been approved for use in hospital setting. In addition, Manuka honey is exceptionally cheaper than the cost of the current standard.

Manuka honey has demonstrated its ability to destroy biofilms of various bacteria including Staph. Aureus which is crucial in eliminating colonization (Alandejani, et al., 2009).

Lastly, it's critical to note that research has also shown that Manuka honey has the ability to reverse antibiotic resistance (Society for General Microbiology, 2011) Professor Cooper explained to Science Daily, "Other work in our lab has shown that honey can make MRSA more sensitive to antibiotics such as oxacillin -- effectively reversing antibiotic resistance. This indicates that existing antibiotics may be more effective against drug-resistant infections if used in combination with manuka honey."

Other Research

In addition to the points made here, please see the attached list of additional sources following the Works Cited Page for more extensive research into the benefits of Manuka honey on wound care and as a treatment for MRSA which was compiled by Medihoney.

Works Cited

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