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Mānuka honey: Another miracle cure that isn't

M?nuka honey cures cancer. Of course it does. What self-respecting exotic health food or organic tincture doesn't? It treats high blood pressure, chronic inflammation, diabetes, gastrointestinal problems, eye, ear and sinus infections, and skin wounds and leg ulcers. I don't know if it grants eternal life, but I don't see why not.

"Study: mānuka honey kills more bacteria than all available antibiotics." Thus reads the headline on naturalnews.com. The identical headline appears on healthy-holistic-living.com, thescienceofeating.com, healthnutnews.com, humansarefree.com, besthealthyguide.com riseearth.com, theholisticworks.com, wakingtimesmedia.com, healthyfoodandhomeremedies.com, getholistichealth.com, naturalsnippets.com, healingthebody.ca (sic), 1mhealthtips.com, naturalremediesforlonglife.com, and worldtruth.tv, among others. In short, it appears everywhere people distrust scientific medicine and think natural remedies work miracles.

The general claim is that it is better than all known antibiotics, kills most or all bacteria, and that bacteria do not become resistant to the antimicrobial effects of honey.

Natural News attributes the article to Amy Goodrich, a yogi, "nutritionist", and "holistic health coach". I place those terms in quotation marks, because they do not mean what they appear to mean. They should certainly not be confused with medical qualifications, or any other real qualifications either, for that matter. Goodrich previously worked as a plant biologist, and studied (but does not claim to be qualified in) pharmacy. Today, she peddles green smoothies, whole-food detox programmes, and "ThinForever, the smartest way to melt body fat, boost energy and improve health". So she's a typical online salesperson who sells expensive snake oil of dubious value to desperate customers who don't know any better.

Only one of the other sites copied the story and attributed it to Amy Goodrich. Most were not attributed at all, or claimed it as their own work, despite being word-for-word copies or very lazily and obviously rewritten.

I was expecting a m?nuka honey marketing association to be behind the story, since it read, and sounded, like a press release. But the Goodrich article itself cites among its sources *True Activist*, where Alexis Henning posted the claim that m?nuka honey "kills more bacteria than all antibiotics", and that it prevents the emergence of resistant strains. Henning, who appears to be very young, claims to have a BA in Political Science/International Relations with a focus in Middle Eastern studies, and

describes herself as a traveller, blogger, and humanitarian. Let's just say she's not a medical or scientific expert either.

Henning refers to a 2009 study she does not adequately identify, "that found a honey better than all antibiotics out there". The link to her source lands you at yet another healthnut page, which makes the same claims. The echo chamber goes deep.

I tracked down the 2009 study because *Natural News* also cited it, in support of their claim that: "M?nuka honey killed almost every bacteria and pathogen it was tested on. Unlike all antibiotics available on today's market, none of the bugs tested were able to survive the honey treatment."

I read the study. It involves a laboratory test in which eight pathogens common in topical wound care were exposed to medical grade m?nuka honey. (Remember that they use purified, sterilised honey in laboratory and clinical settings, to eliminate a whole lot of risks posed by trying to use commercially available honey as a cure for anything.)

As expected, since honey is a known antimicrobial agent, the m?nuka honey killed those pathogens, of which some were resistant to antibiotics. No resistance to the honey's effect could be induced in *E. coli*. Its conclusion is: "Honey is an effective topical antimicrobial agent that could help reduce some of the current pressures that are promoting antibiotic resistance."

So we have a preliminary laboratory study, limited to only eight bacteria, which shows that m?nuka honey *could help* in wound care. We have an inability, in one test, to induce resistant mutations in just one single pathogen. No antibiotics were involved in the study, so no claim about the comparative effectiveness or otherwise of antibiotics can be made.

The claim that m?nuka honey might work against some bacteria is true. The claim that it "is better than all antibiotics out there" is wrong. But this lie got all the way around the world before the truth could even find its shoes.

The Henning piece notes: "WebMD states that m?nuka honey is marketed for preventing and treating cancer, reducing high cholesterol, reducing systemic inflammation, treating diabetes, treating eye, ear and sinus infections and treating gastrointestinal problems. M?nuka honey is incredibly useful for treating skin, wounds and leg ulcers."

First, WebMD is not an authority. Second, it said "marketed", not "proven to be effective". Marketers have a bit of a reputation for playing fast and loose with the truth.

It has long been established that m?nuka honey – derived from the tea tree *Leptospermum scoparium*which grows in Australia and New Zealand – has antimicrobial properties. All honeys do. Even pure sugar does. Honey, when diluted, produces hydrogen peroxide, which is a well-known disinfectant. It is also acidic, which is believed to play a role in wound healing.

Some honeys contain methylglyoxal, and m?nuka honey contains much more than most. In laboratory studies, this appears to act against *E. coli* and *S. aureus*, although the stuff doesn't work on its own, so nobody knows why it works.

In another preliminary study in laboratory settings, involving six pathogens, it appeared that the risk of bacteria developing resistance to honey is low, provided high concentrations are maintained. Reports of success in clinical settings are mostly limited to anecdotal evidence.

The only study I could find involving m?nuka and inflammation had contradictory results, and I could find no papers discussing its use in the treatment of systemic inflammation. Likewise, I could find no suggestions in the literature that m?nuka might lower cholesterol levels. The only mentions in the literature related to diabetes

involved its glycaemic index or ulcer treatment. It isn't used to treat diabetes, and is just the kind of yummy treat that could be deadly to diabetics.

There is extremely limited literature on the use of m?nuka for eye, ear or sinus infections. One paper on m?nuka treatment of rhinosinusitis found it made no difference to the disease, but improved symptoms a little. Another was purely anecdotal and inconclusive, concluding that treating sinusitis with m?nuka couldn't hurt. I could find no research on the effectiveness of m?nuka treatment of otitis (ear infections), though two papers found it to be a safe treatment. In eye care, there's a paper showing its safety (but not effectiveness) in treating eyelid infections, and there's a pilot study and some anecdotal evidence of its use before or after eye surgery to prevent some complications, both of which say more research is needed. It is also used for treating contact-lens-related dry eye, and there's a shoddy study in an extraodinarily specialised journal that says patients report that it works. In all, the evidence for treating eye, ear and sinus infections is extremely limited and inconclusive, mostly concluding "it does little, but doesn't hurt". No randomised double-blind placebo-controlled clinical trials have been conducted for any of these applications.

A laboratory study found m?nuka honey to be effective against *H. pilori*, the bacterium responsible for peptic ulcers. Another laboratory study found that m?nuka has limited antifungal properties. A laboratory study is a long way from a working medicine.

It is doubtful that m?nuka honey is effective in treating leg ulcers, and in particular, for controlling methicillin-resistant *Staphylococcus aureus* (MRSA) infections in such wounds. Some papers are purely anecdotal, and prove nothing. One randomised controlled trial ended up with an extremely small sample (n=10) from which to conclude how many m?nuka-treated MRSA infections cleared up, versus conventional treatment, so its claim that m?nuka works great is suspect at the outset. And indeed, that paper was later retracted.

One study, published in an obscure Egyptian journal with a predatory reputation, appears to offer evidence that m?nuka in conjunction with conventional treatment was more effective in the treatment of diabetic foot ulcers than conventional treatment alone. It involved only 59 patients. Conversely, an equally dubious paper says there is reason to believe that m?nuka might delay wound healing in diabetics. The only decent clinical trial I could find on treating diabetic ulcers, involving 368 participants, found no significant difference between treatment with m?nuka honey and conventional means, but noted that m?nuka was more expensive and associated with more adverse events.

A pilot study involving only 30 volunteers considered the effect of m?nuka honey on plaque and gingivitis, versus a placebo. M?nuka appeared to reduce, but not eliminate, plaque and gingival bleeding.

A fairly recent study, also limited to a laboratory setting, found that m?nuka honey combined with antibiotics used to treat *S. aureus* skin infections, "frequently produces a synergistic effect" which made the antibiotic more effective. However, this was not true for all strains of *S. aureus*. The study noted that the mechanism by which this synergy worked was unknown, but using m?nuka to improve the effect of antibiotics might prove useful in some clinical treatments.

As with all the other supposed treatments, there are very few studies on the use of m?nuka honey in the treatment of cancer. It does appear to have some effect against cancer cells in laboratory studies. In a study in mice, conventional treatment worked much better than m?nuka honey, although a combination treatment appeared to improve the cancerous rodents' survival. It is uncertain whether the effect is unique

to m?nuka, however. Ordinary honey also has an anti-tumour effect, and there seems to be a lot more study about the anti-cancer effects of an entirely different kind of honey (albeit in journals of dubious repute).

The road from lab studies to clinical treatment is a very long one, especially in oncology. Studies (and breathless media headlines) are published all the time about promising new cancer treatments that amounted to nothing in the end. Many of them come from poor studies in fringe journals.

If you have cancer and want it cured, see a doctor. If you think a slice of toast with m?nuka honey will do it, you're probably going to die. M?nuka honey, for now, belongs in the same category as black salve, baking soda, or any other supposed cancer treatment that has not been proven to be effective in proper clinical trials.

Almost all papers on m?nuka honey's effectiveness as an antimicrobial agent for the treatment of any diseases are preliminary studies. Most are laboratory studies, and a lot of them are anecdotal claims only. Of the very few clinical trials, most are small and badly conducted, or have negative results. Some claims about m?nuka are not supported in the literature at all.

People are not petri-dishes. People are not mice. There is nowhere near enough evidence to make the broad claim that m?nuka honey works well as an anti-microbial agent in clinical settings. There's some evidence of its effectiveness in topical wound treatment, but very little beyond that. No appropriate treatment protocols and dosing in humans have been determined.

What m?nuka needs is more large, randomised, double-blind, placebo-controlled clinical trials. The only one I found said m?nuka didn't work. In the absence of such evidence, one cannot confidently say anything about its effectiveness as a treatment for anything.

Might m?nuka have potential as an anti-microbial agent? Sure, although that doesn't make it extraordinary. Is it a superfood, or a miracle cure superior to all antibiotics? Not by a very long way.

M?nuka isn't even all that special a honey. A study comparing ulmo honey from Chile with m?nuka honey against MRSA, *E. coli* and *Pseudomonas aeruginosa* found that the ulmo honey worked better than m?nuka honey, due to its hydrogen peroxide activity. It recommended further study of ulmo honey – not m?nuka – as an alternative therapy in wound healing. Another study found that tualang honey from Malaysia worked just as well as m?nuka honey.

The Australians and New Zealanders are just better at marketing. Their producers have established an association (read: cartel) and are running a concerted marketing campaign to exclude competitors and keep prices high, complete with nonsense certifications like "Unique m?nuka Factor". They claim to have the best honey in the world. And they – the m?nuka salespeople – say we should trust their research. Luckily, they have a lot of gullible health nuts that are only too ready to buy into the latest superfood or miracle cure.

At R500 for a small jar, there's a lot of marketing to be done. **DM**