Honey for Otitis Externa

This study examined the use of a commercial, medical-grade honey (MGH) product for treating otic infections to determine if it would be an effective alternative to conventional therapies. Client-owned dogs ($n = 15$) with confirmed infectious otitis externa were enrolled and administered 1 mL of MGH once a day in each affected ear until clinical cure was achieved or until the end of the 21-day study.

Because of reports that MGH can be ototoxic, examinations were performed before enrollment to ensure integrity of the tympanic membrane in all participants. Clinical otitis scores, cytologic examination, and owner assessments of pruritus were collected during weekly examinations. Samples were submitted for microbial culture and susceptibility testing. Results showed that 70% of dogs achieved clinical cure between days 7 and 14, and >90% achieved clinical resolution by day 21. Clinical otitis scores and owner assessments of pruritus decreased significantly over the course of the study, with 75% of owners indicating they were very satisfied with treatment.

Laboratory testing showed that MGH demonstrated clear biocidal activity against all bacterial isolates in the first 5 minutes of contact (±10 seconds) in vitro. Treatment was satisfactorily tolerated by all participants. The authors concluded that the MGH product studied has potential as an alternative treatment, although larger, randomized, controlled studies are needed.

Global Commentary

Honey is known to have antimicrobial properties; recently, it has been shown to have bactericidal properties against biofilms of *Pseudomonas aeruginosa* and *Staphylococcus aureus*.[1] Biofilms are present in chronic otitis externa, especially where bacteria such as *Pseudomonas* spp are identified.[2] The antimicrobial, healing, and biofilm-breaking properties of honey make it an attractive alternative to antibiotics for treating chronic ear disease. Experience shows that although honey has excellent healing properties, its antimicrobial activity is incomplete. This was echoed in this paper, which showed that although a good clinical improvement was achieved in the majority of dogs, a complete bacterial cure was not obtained; as many dogs still had positive otic cytology after therapy.—*Sue Paterson, MA, VetMB, DVD, DECVD, MRCVS, Rutland House Veterinary Hospital, United Kingdom*

References

1. Aron M, Victoria Akinpelu O, Dorion D, Daniel S. Otologic safety of manuka honey. *J Otolaryngol Head Neck Surg.* 2012;41(Suppl 1):S21-S30.
2. Pye CC, Yu AA, Weese JS. Evaluation of biofilm production by *Pseudomonas aeruginosa* from canine ears and the impact of biofilm on antimicrobial susceptibility in vitro. *Vet Dermatol.* 2013;24(4):446-449, e98-99.

Source

Maruhashi E, Braz BS, Nunes T, et al. Efficacy of medical grade honey in the management of canine otitis externa—a pilot study. *Vet Dermatol.* 2016;27(2):93-e27.

Therapeutics Research Note: Freezing Cyclosporine

Cyclosporine is an immunomodulatory cyclic oligopeptide macrolide that inhibits cytoplasmic calcineurin, which results in immunomodulatory activity; it is used in the treatment of atopic dermatitis and immune-mediated diseases (eg, perianal fistulas, sebaceous adenitis, inflammatory bowel disease, immune-mediated hemolytic anemia, granulomatous meningoencephalitis). In some patients, vomiting merits discontinuation of cyclosporine; the drug is commonly frozen to reduce vomiting incidence. Based on this study, storing capsules in a household freezer is not likely to change cyclosporine stability or absorption in dogs.

Source

Bachtel JC, Pendergraft JS, Rosychuk RAW, Gustafson DL, Hansen RJ, Lunghofer PJ. Comparison of the stability and pharmacokinetics in dogs of modified ciclosporin capsules stored at –20°C and room temperature. *Vet Dermatol.* 2015;26(4):228-e50.