

P66 - A NEW BLEND OF ESSENTIAL OILS TO TREAT EXTERNAL OTITIS IN DOGS

Cristina Vercelli (1), Andrea Peano (1), Giovanni Giovannetti (2), Giovanni Re (1) Mario Giorgi (3)

(1) Università degli Studi di Torino, Dipartimento di Scienze Veterinarie. (2) Nutrigen Italia, Prato.
(3) Università degli Studi di Pisa, Dipartimento di Scienze Veterinarie.

External otitis is one of the most frequent and annoying pathologies in dogs. It could be part of more widespread dermatological disorders. It represents a challenge for veterinarians because underlying causes are often difficult to individuate and correct. Therapeutic approaches include the use of anti-inflammatory, antibacterial and antifungal agents. The interest for “natural” products in the treatment of canine otitis has grown in recent years, also to avoid the extensive use of antibacterial drugs in light of the concern for possible phenomena of antimicrobial resistance [1].

The aim of the present study was to evaluate a new phytotherapeutic topical treatment for canine otitis, which main ingredients are essential oils of *Malaleuca alternifolia*, *Thymus serpyllum*, *Salvia officinalis* (off.), Eucalipto off., *Rosmarinum* off., *Lavandula* off. and *Heliantus annuus*.

In a preliminary *in vitro* evaluation, *Malassezia pachydermatis*, *Candida albicans*, *Proteus* sp. and *Staphylococcus intermedius* strains were cultured in presence of the formulation. The substance was added to 1-5 x 10⁷ units forming colonies (UFC) using the test suspension method, with a contact of 5 and 15 minutes and 1 hour. Then the samples were seeded and checked after 24 and 48 hours for the growth of microorganisms [2]. All the experiments were performed in duplicate. Then an *in vivo* trial was performed. After a complete physical examination, 12 dogs presenting only acute external otitis were enrolled. Each ear was considered as a separate case. Before the treatment, a score ranging from 0 to 3 was assigned to evaluate pruritus, erythema, exudates, bad smell and earwax content, and an auricular swab was collected for a cytological evaluation. The same procedure was repeated at the end of the treatment. The product was administered once a day for 7 consecutive days.

In vitro experiments showed a 99,9% reduction as regards *M. pachydermatis* for all experimental time point starting from 5 minutes of contact, and from 1 hour for *C. albicans* and for *Proteus* spp. The formulation was able to inhibit only 50% of the growth of *S. intermedius* from 1 hour of contact. The *in vivo* trial compared the scores collected before and after the treatment. All the clinical signs were improved: decrease of pruritus, reduction of earwax content and bad smell, and absence of erythema. The owners appreciated the pleasant fragrance of the formulation. The cytological evaluation demonstrated a significant decrease of the presence of bacteria and *M. pachydermatis* in all samples after the treatment.

Both *in vitro* and *in vivo* evaluations seem to suggest the efficacy of this new phytotherapeutic formulation in the treatment of acute external otitis in dogs. Further analyses are necessary to evaluate the formulation also in case of chronic otitis.

[1] WHO Antimicrobial resistance report 2017 [2] Anonimus – Test method and requirements (phase 1). Norma UNI – EN 1275, Dec. 2005.