Klox fluorescence biomodulation system (KFBS), an alternative approach for the treatment of superficial pyoderma in dogs: preliminary results

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OBJECTIVES

The aim of this study was to assess the potential of klox fluorescence biomodulation system (KFBS) as sole treatment in dogs suffering from superficial pyoderma in comparison with systemic antimicrobial treatment.

METHODS

Eighteen dogs with clinical signs of superficial pyoderma were enrolled in this prospective, randomized, non-blinded study: eight dogs received only oral antibiotic cefadroxil (20 mg/kg, twice daily), 5 dogs received KFBS once weekly and 5 dogs received KFBS twice weekly until achieving complete clinical resolution. The KFBS treatment consisted of a two millimeters layer of a photoconverter gel directly spread on the affected pyoderma area and illuminated with a LED lamp for two minutes at approximately five centimeters distance.

RESULTS

The KFBS treatment groups exhibited excellent safety profile and achieved complete clinical resolution in 2.4 ± 1.1 ($p=0.05$) and 2.3 ± 0.7 ($p<0.05$) weeks for once-weekly and twice-weekly treatment dogs respectively, whereas cefadroxil group achieved this in 3.75 ± 1.0 weeks.

STATEMENT (CONCLUSIONS)

These preliminary results indicate that KBS may be an effective sole treatment for canine superficial pyoderma, reducing the need for systemic antibiotic use and with the potential to accelerate time to clinical resolution compared with systemic antibiotic treatment ($p<0.05$ for twice weekly KFBS group). Although topical antimicrobial treatment may be effective as sole treatment for superficial pyoderma, many cases still necessitate or are currently treated with systemic antibiotics. The fast emergence of multi-drug resistant bacteria in canine pyoderma makes the search of alternative therapeutic approaches highly relevant.

Essential oils versus antifungals – an *in vitro* study on their activity against *Malassezia pachydermatis*

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OBJECTIVES

Malassezia pachydermatis (MP) is a commensal yeast of skin and mucosae in dogs. Nevertheless, an overgrowth can result in otitis externa. Topical therapy is commonly based on an antifungal combined with antibiotics and glucocorticoids. Essential oils (EO) are plant products with a complex composition exhibiting biological properties. EO are used in traditional medicine, while antibacterial effects are described in veterinary medicine little information is available concerning *in vitro* antifungal activity. Objective was to analyse the *in vitro* efficacy of 22 EO against MP in comparison to 8 antifungals.

METHODS

MP was isolated from canine ear swabs (n=15) during veterinary routine diagnostics. The antifungal activity of EO (angelica root, cinnamon leaf, clary sage, clove, coriander seed, fennel, lavandin super, lavender fine, lemon, lemon grass, manuka, indian melissa, neroli, oregano, palmarosa, ravintasara, rose geranium, tea tree, thyme, thyme-linalool, thyme-thymol, winter savory) and antifungals (amphotericinB, clotrimazole, econazole, 5-flucytosine, ketoconazole, miconazole, natamycin, nystatin) was tested using agar disc diffusion. The efficacy of EO and antifungals is classified by the zone of inhibition of yeast growth.

RESULTS

Similar to antifungals EO have a distinct activity against MP. Lemon grass, winter savory, oregano, rose geranium,