Completed Projects

Microbiological and histopathological features of canine acral lick dermatitis

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Abstract

The purpose of this study was to investigate microbiological and histopathological features of canine acral lick dermatitis (ALD). Microbial characteristics of ALD are poorly described in current literature. If infection is recognized, antimicrobial selection is usually empirical, based on appearance, cytology or surface culture, rather than deep tissue culture. It was hypothesized that cultures obtained from deep tissue would yield different results than predicted by surface culture and cytology, and that isolates from ALD have unpredictable susceptibility patterns showing resistance to antibiotics routinely administered for canine pyoderma. Biopsies were obtained from 31 lesions and submitted for aerobic, anaerobic and fungal culture, and histopathological evaluation. Surface aerobic culture and susceptibility and cytology were obtained for comparison in 22 dogs. Skin scrapings and dermatophyte culture were performed. Bacteria were isolated in 30 of 31 cases. Staphylococcus intermedius was isolated in 58% of deep cultures. Twenty per cent of deep isolates were methicillin-resistant Staphylococcus species. Forty-eight per cent of cases yielded organisms defined as multidrug resistant on deep culture. Only 57% and 55% of bacteria isolated from tissue culture were sensitive to amoxicillin-clavulanic acid and cefazolin, respectively. Cytology and superficial cultures did not correlate well with deep cultures. Surface culture predicted deep tissue isolates in eight of 22 cases. Microsporum gypseum was isolated from one dog. Histopathological features included acanthosis, follicular elongation, lymphoplasmacytic dermal inflammation, folliculitis, furunculosis, perihidradenitis, hidradenitis and vertical streaking fibrosis. Lesions associated with ALD warrant tissue bacterial cultures as the majority of cases yielded positive growth of bacteria differing from superficial culture and often resistant to empirical drugs.