

Relationship Between Periodontal & Systemic Disease in Dogs

Heidi B. Lobprise, DVM, DAVDC

*Main Street Veterinary Hospital & Dental Clinic
Flower Mound, Texas*

In the Literature

Pereira Dos Santos JD, Cunha E, Nunes T, Tavares L, Oliveira M. Relation between periodontal disease and systemic diseases in dogs. *Res Vet Sci.* 2019;125:136-140.

FROM THE PAGE ...

Periodontal disease is a common inflammatory disease in dogs. Bacteremia, bacterial metabolic products and toxins, and inflammatory mediators and immune complexes that result from periodontal disease can all have an impact on distal organ health.

This study sought to evaluate the association between periodontal disease and systemic disease, specifically renal, hepatic, and cardiac disease. Records of 136 dogs presented to a veterinary teaching hospital were retrospectively reviewed. Dogs were separated into 2 groups: those that had periodontal disease ($n = 75$) and those that did not have periodontal disease ($n = 61$). The average age of dogs in the periodontal disease group was 12.1 years, and >50% of dogs in this group weighed <22 lb (10 kg).

A significant association was found between periodontal disease and cardiac disease. Of the 75 dogs that had periodontal disease, 38 (50.67%) demonstrated cardiac signs, whereas only 2 of the 61 dogs (3.28%) that did not have periodontal disease showed these signs. Although an association between periodontal and cardiac disease was demonstrated in this study, conclusions must be tempered with the understanding that—although periodontal disease may be a risk factor for dogs predisposed to cardiac disease, particularly myxomatous mitral

valve disease—a specific causal relationship cannot be proven.

No statistical correlation was found between periodontal disease and either renal or hepatic disease; however, this was determined based on clinical features rather than histopathology. Study limitations, as noted by the authors, included limited sample size, its retrospective nature, and lack of periodontal disease staging.

Evidence-based research directly connecting periodontal disease to a causal relationship with systemic disease is challenging to validate and substantiate. However, the lack of hard evidence does not negate the potential risk factor for periodontal disease, especially when the potential impact of chronic inflammation is considered.

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1 Owners should be educated about how periodontal disease can contribute to overall health. Bacteria are present in the gingival sulcus of the teeth in a biofilm that has direct contact with the gingiva. The gingiva has a local immune response to this encroaching bacterium and its toxic products. As periodontal disease progresses, significant local effects occur and have the potential to contribute to overall systemic disease.
- 2 Although periodontal disease involves bacteria, routine dental prophylaxis in a healthy patient does not generally necessitate systemic antibiotic therapy.
- 3 Prevention of periodontal disease through regular dental care to avoid substantial local and systemic impact caused by disease is ideal. Regular dental care is particularly important for any patient with systemic disease.