
PERIODONTAL DISEASE IN TWO ZOO-BASED SOUTHERN BLACK RHINOCEROS (*Diceros bicornis minor*)

**Benn Bryant, BVSc, MVS, MANZCVSc* and Michelle Campbell-Ward, BSc, BVSc,
DZooMed (Mammalian) MANZCVSc**

Taronga Western Plains Zoo, Obley Rd, Dubbo, NSW, 2830, Australia

Abstract

Painful periodontal disease often goes undetected in horses due to inadequate oral cavity examination. This is also likely the case for stoic zoo Rhinocerotidae which typically express only mild signs of disease and in which examination is challenged by orofacial anatomy.

Longstanding severe, extensive periodontal disease characterised by multifocal apical abscessation and lysis of perialveolar bone, gingival pathology, diastemata and hypercementosis was identified in two ex-wild, aged, female southern black rhinoceros fed long-term on a predominantly grass based forage in an open range zoo. Clinical signs were mild (i.e., infrequent) quidding. Animals maintained good body condition and appetite. Despite worn, smooth occlusal surfaces, other features of wear (hooks, points, wave mouth etc) were not present. Clinical examination was challenging and dental radiography was necessary to characterise disease.

Browse is less abrasive than grass which contains significant silica. Accordingly, browsing species (e.g., black rhinoceros) have evolved a different dentition, including a lesser degree of hypsodonty, than grazers (e.g., horses). Horses develop periodontal disease where pathologic dental wear (points etc) and altered chewing patterns generate abnormal forces on the periodontia.^{1,2} Conversely, we speculate that abnormal forces contributing to periodontal disease in zoo black rhinoceros fed predominantly grass forage arise subsequent to the grinding of a ration for which the dentition is unsuitable. Potential consequences of chronic inflammatory dental disease in black rhinoceros include systemic abscessation, sub-fertility and exacerbation of excessive iron uptake.

Thorough, regular orodental examination, including dental radiography, should be part of zoo black rhinoceros preventative health.

Key words: Black rhinoceros, *Diceros bicornis*, hypercementosis, periodontal disease

LITERATURE CITED

1. Dacre IT. Equine dental pathology. In: Baker GJ, Easley J (eds.). Equine Dentistry 2nd edition. Philadelphia (PA): Elsevier Saunders; 2005. p. 91-109.
2. Baker GJ. Abnormalities of wear and periodontal disease. In: Baker GJ, Easley J (eds.). Equine Dentistry 2nd edition. Philadelphia (PA): Elsevier Saunders; 2005. p. 111-119.