Importance of Dental Radiology in all dental procedures.

Case Study: Louie, 11-Year-Old Cavalier X, who presented for a routine COHAT.

History

Louie came through our shelter as an adult and during his admission check the shelter vets noted mild to moderate periodontal disease graded at Dental Grade 3 with moderate generalized calculus staining. Once medically cleared, he was then booked in for a COHAT (Complete Oral Health Assessment and Treatment) under general anaesthetic to provide periodontal treatment.

Clinical Examination

On dental examination, Louie was noted to have mild to moderate generalised periodontal disease. He was also noted to have significant generalized abrasion (wear of his teeth) likely due to parafunctional chewing behaviours prior to coming to the shelter. Every dog at AAPS that is consciously graded at Dental Grade 2 and above automatically gets full mouth intra-oral radiographs as part of their dental procedure. This is based on a study that revealed ~30% of clinically relevant pathology is missed without screening dental radiography[1]. This percentage significantly increases as the age of patient increases. Clinical photos of Louie's mouth presented below.

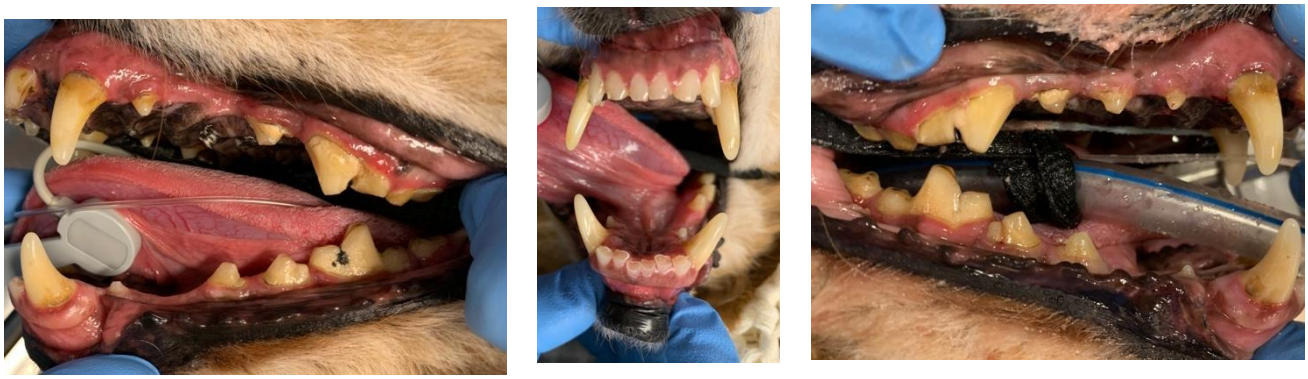

Figure 1 – Pre-operative clinical photos prior to any treatment

[1] Verstraete FJ, Kass PH, Terpak CH. Diagnostic value of full-mouth radiography in dogs. Am J Vet Res. 1998 Jun;59(6):686-91. PMID: 9622735.

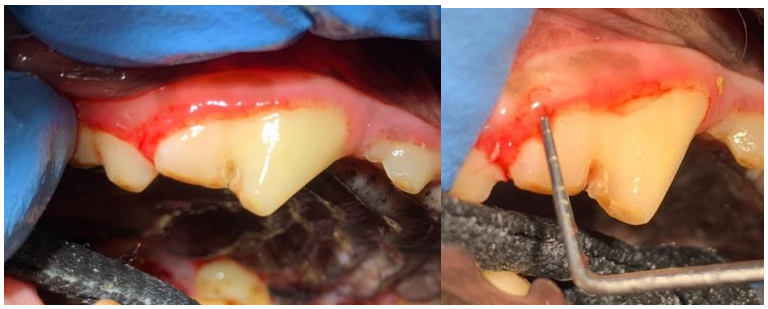

Figure 2 – 108 post periodontal prophylaxis, note normal periodontal probing depths

Figure 3 – Intra-oral radiograph of 108 with severe external root resorption

Assessment

Based on radiographic findings, Louie was diagnosed with external replacement resorption as well as generalized periodontitis. Tooth resorption can be challenging to treat because of various aetiologies and radiographic presentations in dogs[2]. Like cats, there is pain associated with this condition once lesion is exposed into the oral cavity. Despite there being no obvious clinical signs associated with the crown of 108 and 409, radiographs revealed extensive resorption that have progressed into the crown of the teeth.

[2] Peralta S, Verstraete FJ, Kass PH. Radiographic evaluation of the types of tooth resorption in dogs. Am J Vet Res. 2010 Jul;71(7):784-93. doi: 10.2460/ajvr.71.7.784. PMID: 20594081.

Treatment

Louie underwent a Complete Oral Health Assessment and Treatment (COHAT) where he had all his teeth assessed for developing periodontal and endodontic disease via dental probing and full mouth intra-oral radiographs.
He was noted to have multiple teeth affected with tooth resorption and periodontitis. Due to the expected length of anaesthetic being prolonged, it was elected to stage Louie's dental procedure, with some surgical extractions performed during his first anaesthetic, and performing remaining extractions in another anaesthetic 4 weeks afterwards.

Discussion

Based on literature tooth resorption in dogs is quite common[3], despite most of the studies and treatment outcomes focused on cats. The two most common forms of tooth resorption identified in dogs include external replacement resorption (34.4%) and external inflammatory resorption (25.9%)[4]. Studies suggest prevalence of external replacement resorption is positively associated with increasing age, and potentially resultant from increased occlusal trauma (such as abrasion). In contrast, external inflammatory resorption is associated with periodontal disease, endodontic disease or a combination of both.

This case highlights the importance and indication for performing full mouth dental radiography in dogs, despite having normal probing depths and clinical evaluation.

Advanced procedures currently performed:

ENDODONTIC TREATMENT

- Evaluation and Treatment for uncomplicated crown fractures with restorations
- Full mouth restorations
- Crown Height Reduction and Vital Pulp Therapy

PERIODONTAL TREATMENT

- Complicated extractions such as toy breeds with risk of jaw fracture
- Feline Chronic Gingivostomatitis

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[3] Arnbjerg J. Idiopathic dental root replacement resorption in old dogs. J Vet Dent 1996;13:97–99.
[4] Peralta S, Verstraete FJ, Kass PH. Radiographic evaluation of the types of tooth resorption in dogs. Am J Vet Res. 2010 Jul;71(7):784-93. doi: 10.2460/ajvr.71.7.784. PMID: 20594081.

- Furcation treatment and bone grafts
- Dentigerous Cyst removal

ORTHODONTIC TREATMENT

- Juvenile interceptive orthodontics
- Crown Height Extensions

Services soon to be offered:

- Root Canal Therapy
- Jaw Fracture Repair

Dr. Suruchi Perera, graduated in 2015, has successfully completed her study for her MANCVS in Small Animal Dentistry and Oral Surgery and is keen to help you and your clients out by spreading knowledge regarding dentistry in our veterinary patients, enabling your clients to have pets with pain free functional mouths.

Disclaimer - Dr. Suruchi Perera is NOT a dental specialist, and if you are considering referring any dentistry cases to AAPS, please ensure your clients are aware of this. There are only two board certified dental specialists in Victoria, Dr David Clarke and Dr Robert Menzies. Dr Suruchi's goal is to offer advanced dentistry treatment out of AAPS to help clientele that may not be able to afford specialist treatment.