

CASE OF THE MONTH (March 2008)

Signalment and History:

A ten year old female Gordon Setter was referred for an intermittent left infraorbital swelling. Fourteen months prior to this referral, the left maxillary 4th premolar(208) had been severely fractured resulting in significant loss of tooth structure. The referring veterinarian extracted this tooth at that time. Over the past 14 months the patient had periodically developed a left infraorbital swelling that was temporarily responsive to antibiotic therapy. Each time the antibiotics were administered, the swelling subsided, but consistently returned after termination of antibiotic treatment.

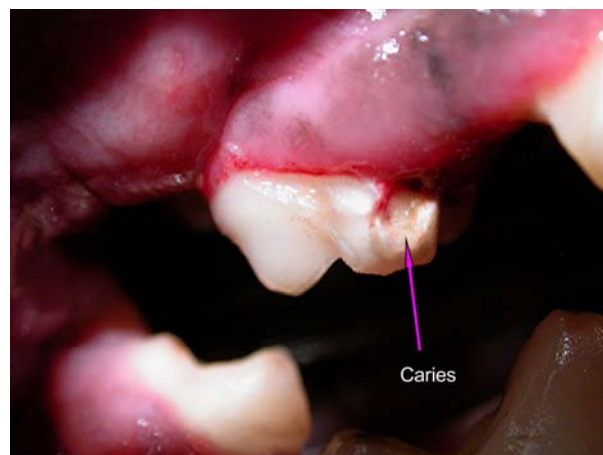
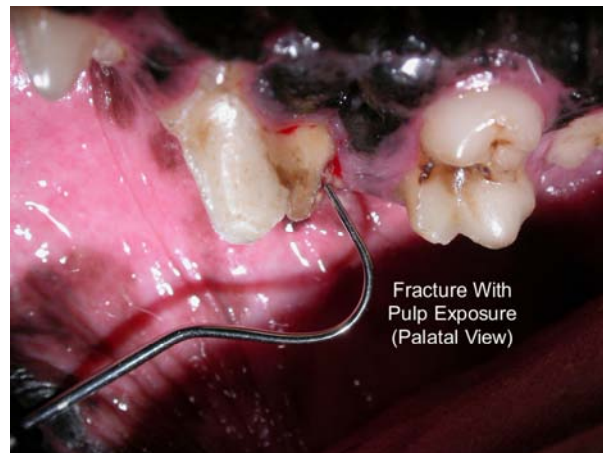


Procedures: The patient was placed under general anesthesia for a complete oral examination. Just distal to the extraction site of tooth 208 we found a draining fistula apical to the mucogingival line.

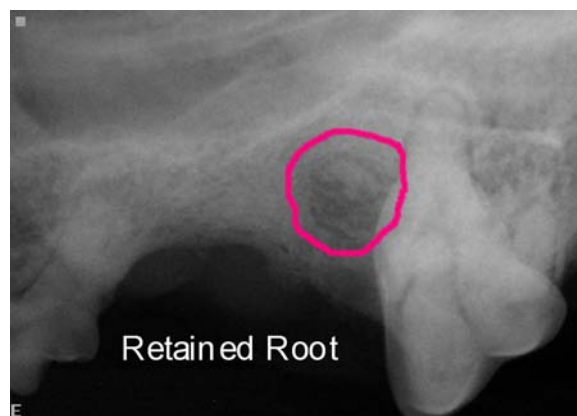


In addition we found a plethora of unrelated oral pathology. Both maxillary canines were fractured with pulp exposure, as was the right maxillary 4th premolar. A carious lesion was present on the mesial root of the right maxillary 1st molar. The right mandibular 2nd molar exhibited excessive mobility.

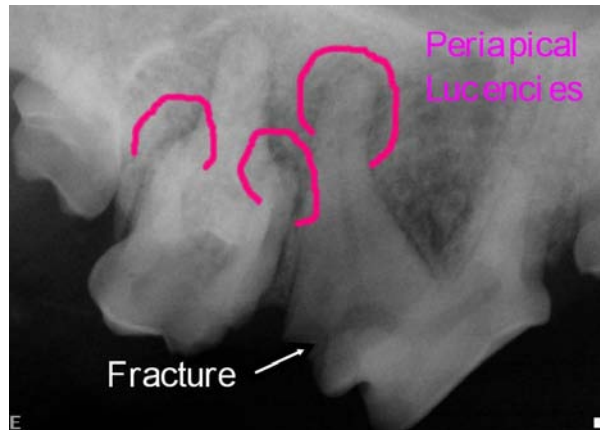




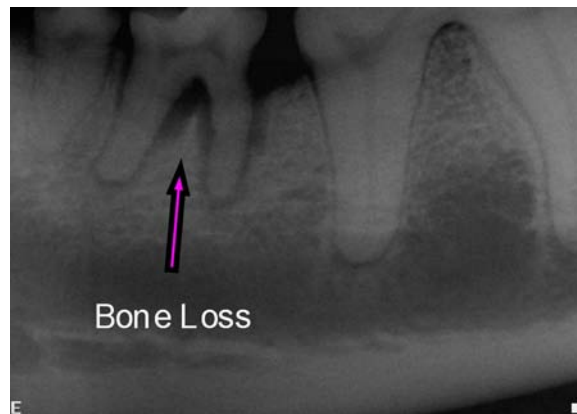
After the oral examination, intraoral radiography was used to further evaluate the oral pathology. The first area to be evaluated was the old extraction site of tooth 208. This image showed a retained root fragment of the distal root with a surrounding area of lucency.



A radiograph of the fractured right maxillary 4th premolar and the first molar with the carious lesion demonstrated periapical lucencies on roots of both teeth.



A radiograph of the mobile right mandibular 2nd molar revealed severe vertical bone loss of both roots resulting from periodontal disease.



A full thickness mucoperiosteal flap was created in the area of the retained root of 208 and the area was explored. The root fragment was removed and a post-op radiograph showed that the removal had been complete.



Both the right maxillary 4th premolar and 1st molar were surgically extracted, as well as the mandibular molar.



Both maxillary canine teeth were treated with root canal therapy.



Discussion: Before the left maxillary 4th premolar (208) was first extracted it had sustained extensive structural damage. It may have suffered a fracture of the distal root prior to extraction. We can only surmise because the referring veterinarian did not have access to intraoral radiography. Is it mandatory to take a post-extraction radiograph on each extraction? In my opinion the answer is no. After extracting a tooth it is easy to closely examine the roots both visually and tactilely. When completely extracted, the apex of the root will appear rounded and will feel smooth to the touch. If

these criteria are not met, a post-extraction radiograph is indicated.

When a canine patient presents with an infraorbital swelling, the list of tentative diagnoses must include an abscess of the maxillary 4th premolar, 1st molar, and 2nd molar. If this were a feline patient, the maxillary canine tooth would be the most likely culprit. This patient presented with a history of prior extraction of the 4th premolar, so the odds were high that this tooth was involved in the pathogenesis of the infraorbital swelling. However, intraoral radiography is essential to be certain that we incriminate the correct tooth.

The recurrent nature of the infraorbital swelling in this case is important. If a condition temporarily responds to antibiotic treatment and recurs after termination of the antibiotics, it is highly likely that a retained root, bony sequestrum, or foreign body is present. Antibiotics will improve many maladies in our patients, but if the condition returns after the antibiotics are finished, we need to make a definitive diagnosis and apply the correct treatment.

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