Case of the Month

• Submitted by Drs. Jared Sharp and Dana Neelis
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• Signalment:
  • 20-year-old pony mare

• History:
  • A CT was requested for further evaluation of a bony proliferation that has been present at the level of the left third cheek tooth.
  • The lesion had reportedly been mildly progressive over the last several months.
  • Some abnormal mastication and possible masseter muscle atrophy was noted by the rDVM.
  • No reported weight loss.
  • No significant pain was noted on palpation of the mass.
• CT performed standing with sedation. No contrast administered.
• FINDINGS:

• An irregular, mineral attenuating mass-like structure (~ 3 cm x 3 cm) is present within the left mandibular body, adjacent to and deforming the tooth root of the left 4th mandibular premolar.
  • Expansion of the left mandibular cortex is present at this level with marked thinning of the normal cortical bone. Proliferative smooth periosteal proliferation extends along the lateral aspect of the left mandible caudally to the level of the first molar and cranially to the level of the second premolar. To a lesser degree, there is smooth periosteal proliferation along the medial aspect of the left mandible.
  • Small cortical fracture is also present along the medial left mandible, at the level of the fourth mandibular premolar.
  • Poorly defined horizontal fracture is identified through the neck of the fourth mandibular premolar
• FINDINGS (continued):
• Bone loss/resorption surrounding the roots of the left 3rd mandibular premolar and 1st mandibular molar, with abnormal thickened, clubbed roots and a poorly defined linear lucency at the neck of the left 3rd mandibular premolar, suspected to be a fracture
• Widening of the periodontal space around multiple maxillary (1st and 2nd molars) and mandibular (left 2nd mandibular premolar and first mandibular molar, right ) cheek teeth, and clubbed roots of the right 3rd mandibular premolar
• Horizontal fracture of the neck of the right first mandibular molar
• Conclusions:

• Findings at the level of the left 4th mandibular premolar are most suggestive of an odontogenic tumor resulting in expansion of the left hemimandible with a small pathologic medial cortical fracture and damage (fracture, destruction of the tooth roots) of the 4th mandibular premolar.

• Bone loss surrounding the left 3rd mandibular premolar and 1st mandibular molar, and an incomplete fracture of the left 3rd mandibular premolar.

• Multiple teeth with widening of the periodontal space and blunted, thickened/clubbed roots, most suggestive of chronic periodontitis and/or tooth root infections. Fracture of the neck of the right first mandibular molar.
Follow-Up

- Nearly 9 months later the mare returned for a recheck CT.
- The mass palpated larger in size, however no weight or pain on palpation was noted.
- No additional diagnostics or treatments had been pursued between studies.
• Conclusions:

• Progressive expansile mineral attenuating left mandibular mass associated with the tooth roots of the left fourth mandibular premolar. The primary differential is still an enlarging odontogenic tumor.

• Progressive periosteal proliferation and thickening of the left hemimandible, likely secondary to the enlarging, expansile mass, with small cortical fractures.
Biopsy Results

• Following the second CT two surgical biopsies were submitted for histopathology.

• Histopathology Results:
  • **Adenocarcinoma** of the left mandible
  • Osteomyelitis with necrotic bone