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Case 2

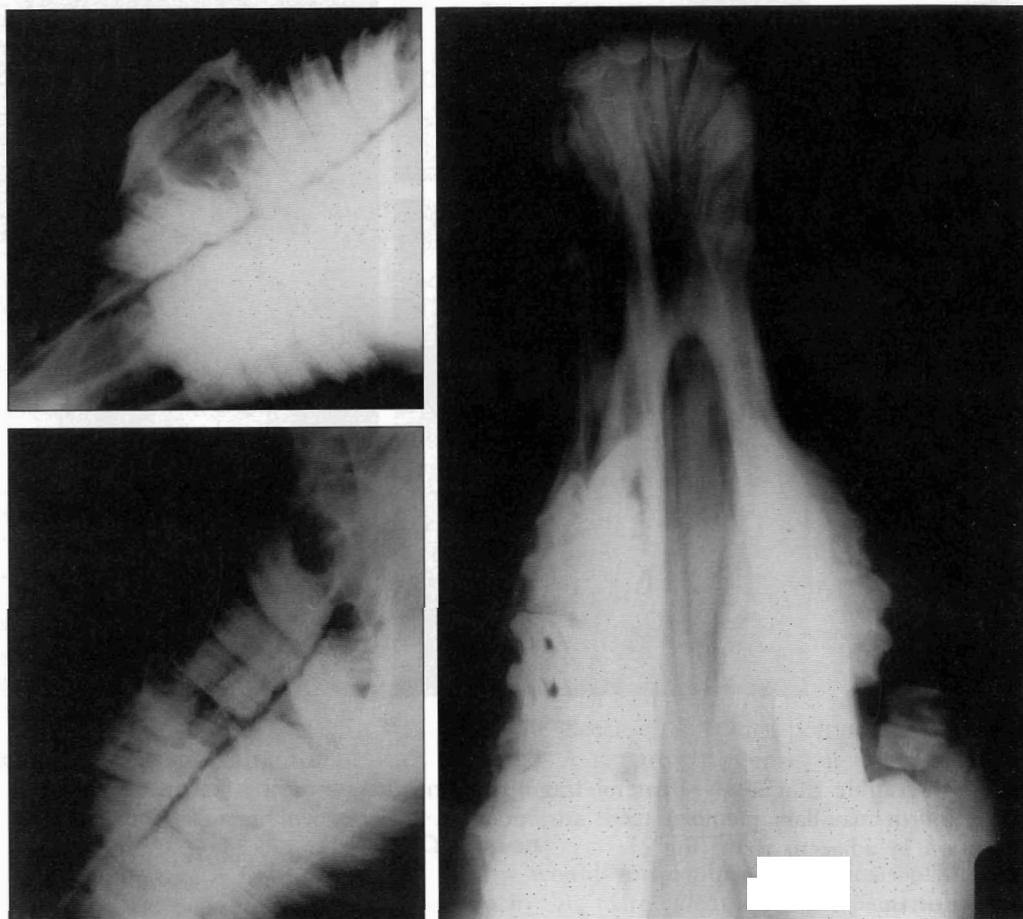


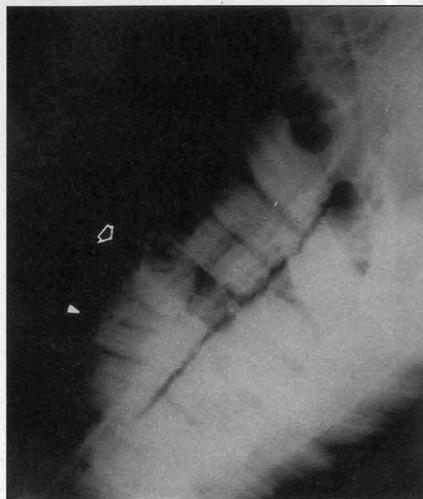
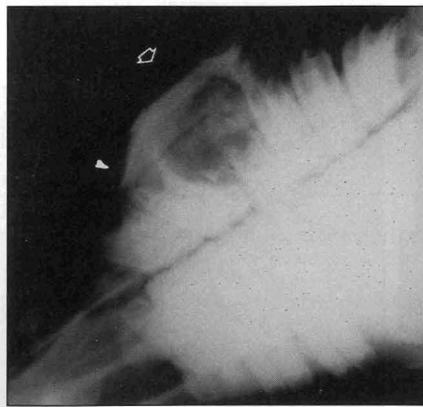
Figure 1—Right 10° dorsal-left ventral (top left) and left 10° dorsal-right ventral (bottom left) oblique and dorsoventral (right) radiographic views of the maxilla of a horse with a history of chronic swellings of the left and right sides of the maxilla.

History

A 5-year-old Quarter Horse gelding was evaluated for chronic swellings of the left and right sides of the maxilla. Physical examination revealed a 7 × 10-cm firm swelling on the left and a similar 4 × 10-cm swelling on the right. The horse was in good condition and its appetite was excellent. A nasal discharge or offensive odor to the mouth was not noticed. Radiographs of the maxilla were obtained (Fig 1).

Determine whether additional imaging studies are required, or make your diagnosis from Figure 1—then turn the page ▶

Figure 2—Same radiographic views as in Figure 1. Notice the caudally displaced third maxillary premolars (arrowheads) and impaction of the fourth maxillary premolars (open arrows) on the right 10° dorsal-left ventral (top left) and left 10° dorsal-right ventral (bottom left) oblique views. Retention of the left fragmented fourth maxillary premolar tooth (open arrow) is evident on the dorsoventral radiographic view (right).



Diagnosis

Radiographic diagnosis—Bilateral fragmentation of the fourth maxillary premolar teeth attributable to impaction by adjacent teeth (Fig 2).

Comments

Differential diagnoses for firm facial swellings include apical tooth infections, nutritional hyperparathyroidism, and impacted teeth. Radiographically, destruction of bone surrounding a tooth root is suggestive of an apical tooth infection. Diseases of premolar teeth can involve the maxillary sinus because roots of these teeth may penetrate this sinus.¹ Nasal discharge often is observed if a tooth-root abscess is associated with paranasal sinusitis.² A periapical abscess was considered as a differential diagnosis for the facial swellings in this horse; however, purulent material was not found during surgical repulsion of either fourth maxillary premolar tooth. Because this horse did not have clinical signs consistent with maxillary osteoporosis and was on a diet balanced in calcium and phosphorus, nutritional hyperparathyroidism was considered unlikely. Bilateral premolar impaction was diagnosed.

The fourth premolar tooth (third cheek tooth) normally erupts in horses at 4 years old. This tooth is the last permanent premolar tooth to erupt, and a deciduous tooth does not precede it. It can become impacted, rotated, or malpositioned as a result of its late eruption date.² It is the authors' opinion that resistance from adjacent teeth during eruption may result in fragmentation of the fourth premolar. If fractured teeth are left untreated, osteitis, bony lysis, eruption cysts, and fistulas can result.³

1. McIlwraith CW. Equine digestive system. In: Jennings PB Jr, ed. *The practice of large animal surgery*. Vol 1. Philadelphia: WB Saunders Co, 1984;554-664.

2. Baker GJ. Diseases of the teeth and paranasal sinuses. In: Mansmann RA, McAllister ES, Pratt PW, eds. *Equine medicine and surgery*. 3rd ed. Vol 1. Santa Barbara, Calif: American Veterinary Publications Inc, 1982;437-458.

3. Mueller PO. Equine dental disorders: cause, diagnosis, and treatment. *Compend Contin Educ Pract Vet* 1991;13:1451-1460.

This report was submitted by Suzann A. Carson Dunkerley, DVM, and R. Reid Hanson, DVM, from the Department of Large Animal Surgery and Medicine, College of Veterinary Medicine, Auburn University, AL 36849-5522.

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