

DIA B 1

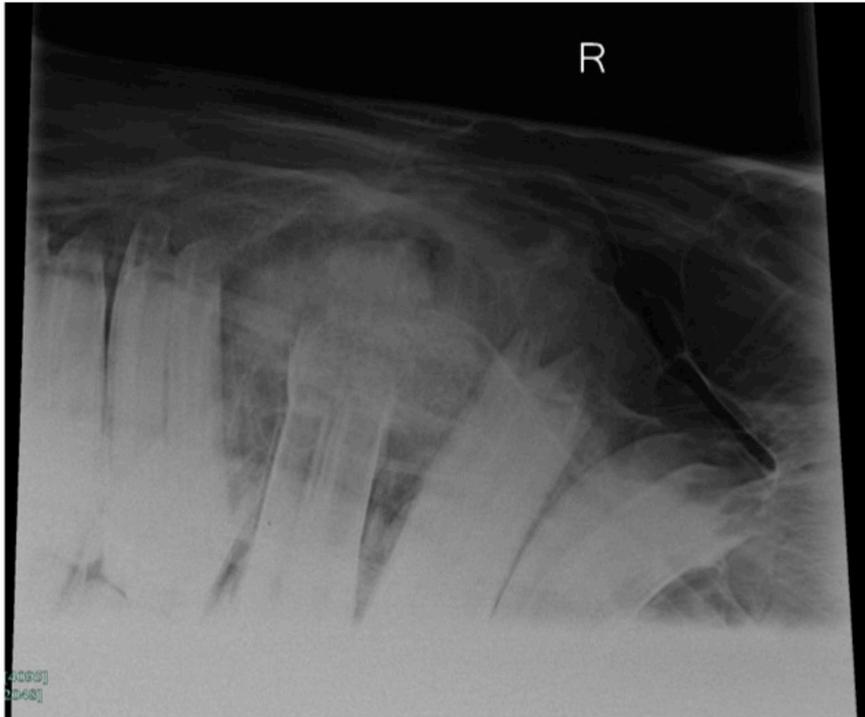


The offset-mandibular, dorsoventral radiographic projection can provide adequate imaging of some dental anatomy/pathology not well appreciated on oblique projections. The red arrow is pointing to one such structure or lesion seen commonly with this projection. What is the most likely lesion indicated by the arrow?

- a) Pulp horn 1 exposure (du Toit numbering system)
- b) Rostral infundibular hypoplasia or caries
- c) Periodontitis with alveolar bone loss between the mesio-buccal and palatal roots
- d) Air entrapment within the common pulp chamber
- e) Sagittal fracture of the crown

Baratt R. Advances in dental radiology. *Vet Clinic N Amer Equine Prac* 2013; August: page needed.

DIA B 2



A 5-year old American Saddle mare presented with mild facial swelling. On oral examination there was a retained cap of tooth 108. What is the most likely diagnosis based on the radiographic changes observed?

- A. A fractured apex of tooth 109 with severe alveolar bone sclerosis.
- B. An apical infection of tooth 109 with dystrophic calcification within the rostral maxillary sinus.
- C. An impacted tooth 109 with mineralization of an apical eruption cyst.
- D. A neoplastic mass occupying the rostral maxillary sinus.
- E. Dental sinusitis with inflamed and hypertrophied sinus mucosa.

Gibbs C, Lane JG. Radiographic examination of the facial, nasal and paranasal sinus regions of the horse. II Radiological findings. *Equine Vet J* 1987; 19 (5): 474-482

NDT DIA W 233

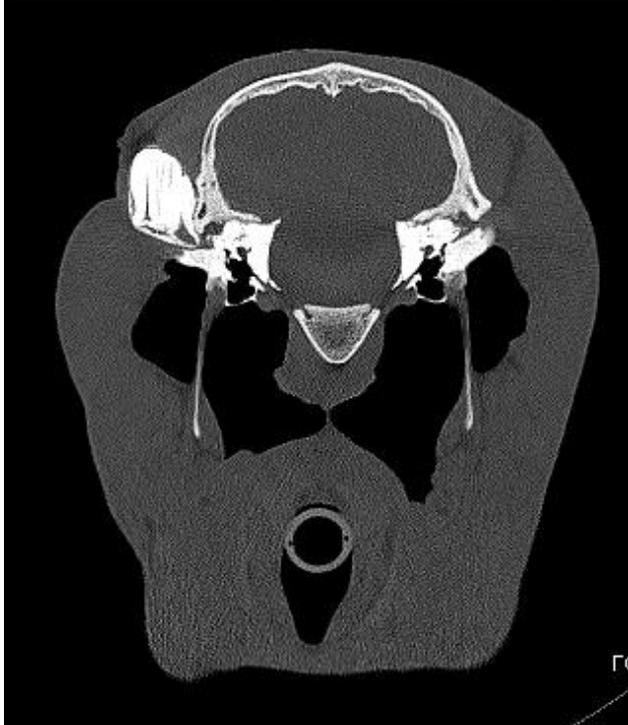
In the conclusion of the article by Townsend NB, Hawkes CS, Rex R et al. 'Investigation of the sensitivity and specificity of radiological signs for the diagnosis of periapical infection of equine cheek teeth' in *Equine Vet J* 2011; 43 (2): 170-178, which two radiographic changes were strongly associated with cheek teeth apical infection:

- A. Clubbing of roots and generalized radiolucency of the reserve crown
- B. Periapical sclerosis and periapical halo formation
- C. Periapical sclerosis and cementoma formation
- D. Widening of the periodontal ligament and radiolucency of the reserve crown
- E. Widening of the periodontal ligament and loss of *lamina dura*

(referenced above)

DIB B 1

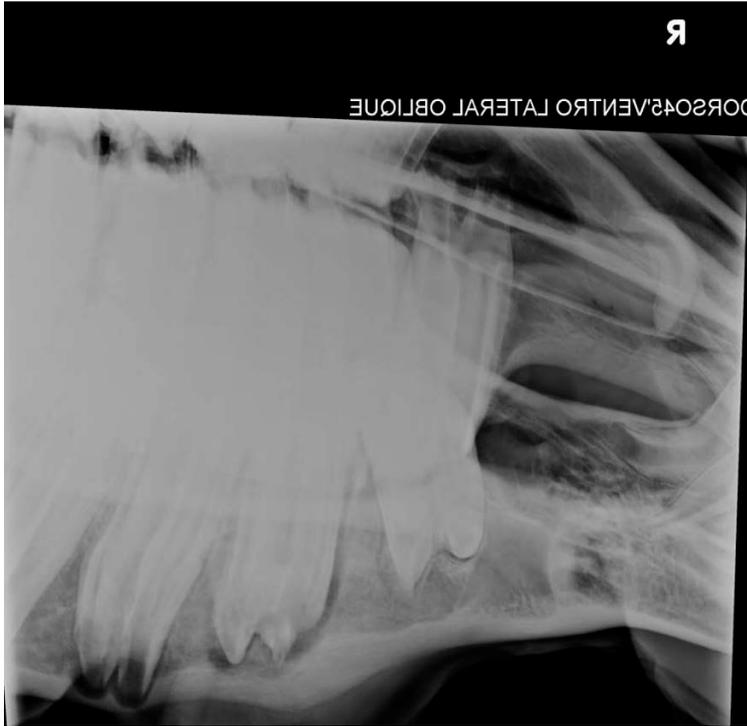
A 14 month-old Thoroughbred colt was presented with a firm swelling below the right ear. There was a mucopurulent discharge from a sinus tract at the base of the ear. Digital radiographs of the area demonstrated an amorphous radio-opaque mass and the decision to image further using computed tomography was taken. Which of the following options provides the best diagnosis for the pathology in the image?



- A. Otitis media and associated bone proliferation
- B. Temporal teratoma
- C. Compound odontoma
- D. Fracture of the condyloid process of the mandible with excessive callus formation
- E. Parietotemporal adamantinoma

Pease AP. The equine head. In: Thrall DE. Textbook of Veterinary Diagnostic Radiology. 6th ed. St. Louis: Elsevier, 2013; 153-171.

DIB B 2



Which of the following statements best describes the changes visible in the radiograph of the right mandible?

- a) There is periapical sclerosis and periodontal lysis around the rostral and caudal roots of tooth 407 indicating apical infection of the tooth.
- b) There is periodontal lysis and mandibular cortical thickening in the region of teeth 406 and 407 indicating osteomyelitis.
- c) There is pathological periapical lysis around the apices of teeth 407 and 408 suggesting multicentric apical infection.
- d) There is cortical sclerosis near the apex of tooth 407, and the radiolucency near the apex of tooth 408 is physiological age related bone remodeling.
- e) There is a draining tract through the ventral mandibular cortex ventral to tooth 408 indicating pulp suppuration.

Barakzai S (2012) Dental Imaging In: Equine Dentistry (3rd Edition) Editors Easley, KJ, Dixon, PM and Schumacher JS Elsevier Saunders

DIB B 3



Which statement best describes the findings of the transverse computed tomography image below?

- a) Primary sinus disease is present in the left caudal maxillary and sphenopalatine sinus.
- b) Sinus disease is present in the left caudal maxillary and ventral conchal sinus secondary to apical disease involving a buccal root tip of a maxillary cheek tooth.
- c) Primary sinus disease is present in the left rostral maxillary and middle conchal sinus.
- d) Sinus disease is present in the left rostral maxillary and conchofrontal sinus secondary to apical disease involving the palatal root of a maxillary cheek tooth.
- e) Sinus disease is present in the left rostral maxillary and ventral conchal sinus secondary to apical disease involving a maxillary cheek tooth.

Reference: Pease AP. The Equine Head. In: Thrall DE. Textbook of Veterinary Diagnostic Radiology Sixth Edition. Elsevier 2013, pages 158-161.

DIC B 1

A five year-old Pony gelding developed a swelling over the rostral left facial crest region. A 45° dorsal-lateroventral oblique projection radiograph is provided. This radiograph demonstrates an abnormality of tooth 209, but it is inconclusive as to the nature of the abnormality. What additional radiographic projection will best provide the additional information necessary?



- A. A lateral projection.
- B. A 45° ventral-laterodorsal oblique projection.
- C. A 15° ventral-laterodorsal open-mouth oblique projection.
- D. A 15° dorsal-lateroventral open-mouth oblique projection.
- E. A 45° ventral-laterodorsal open-mouth oblique projection.

Barakzai SZ. Dental imaging. In: Easley J, Dixon PM, Schumacher J. Equine Dentistry. 3rd ed. Philadelphia: Saunders, 2010; 199-221.

DIB W 1

The principles of radiation safety guidelines are to prevent unnecessary exposure to ionizing radiation. The current recommendations for exposure standards for personnel are known as ALARA (as low as reasonably achievable). The major variables used in adhering to ALARA are:

- A. Personnel monitoring, reduction of scatter and time
- B. Personnel monitoring, shielding and distance
- C. Distance, shielding and time
- D. Distance, reduction of scatter and shielding
- E. Reduction of scatter, shielding and time

Thrall DE, Widmer WR. Radiation protection and physics of diagnostic radiology. In: Thrall DE. Textbook of Veterinary Diagnostic Radiology. 6th ed. St. Louis: Elsevier, 2013; 2-21.

DIC W 1

When using computed radiography, it is not necessarily straightforward to fine tune image exposure due to image processing, and acquisition of mandibular oblique views can be particularly challenging because of extreme variation in tissue thickness. One important step to improving the exposure of mandibular oblique computed radiographs is:

- A. decreasing the standard focus-image plate distance.
- B. increasing collimation.
- C. decreasing mAs.
- D. increasing kVp.
- E. increasing film speed.