

What's Your Radiographic Diagnosis?

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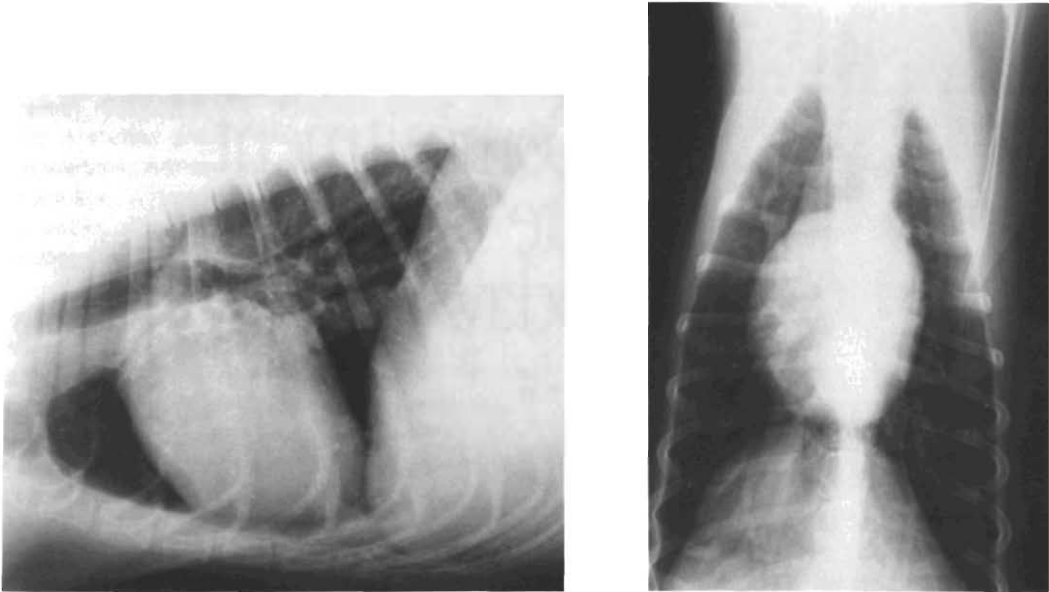


Fig. 1: Right lateral and dorsoventral thoracic radiographs of 11 year old, male collie with an enlarging facial mass.

History

An eleven year old, male, collie presented for evaluation of a right facial mass. The mass was located rostroventrally to the right eye. Antibiotic therapy was initiated. The mass did not regress and two weeks later it was reevaluated. A small amount of pus was obtained from the mass by needle aspiration. The teeth were cleaned at this time and more antibiotics were dispensed.

The mass began to enlarge rapidly. When the dog was presented to the ISU Veterinary Teaching Hospital, the mass had doubled in size. On physical examination the mass was 4 cm in diameter. It was firm and non-painful. The gingiva around the 4th maxillary premolar and 1st molar was swollen. There was no foul odor from the

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mouth. All other body systems were normal on physical examination. Two differential diagnoses to be pursued were periapical abscess and neoplasia. Thoracic radiographs were requested (fig. 1).

Radiographic Findings

Many 1-3 mm, well defined nodules are identified in all lung lobes. The opacity of these nodules is that of mineralization. No other abnormalities are observed. No soft tissue masses are observed within the lung parenchyma.

Radiographic Diagnosis

Pulmonary mineralization compatible with either pulmonary osteomas or calcified granulomas. No evidence of pulmonary metastases.



Fig. 2: Close up of cranioventral lung field. This shows small mineralized nodules that do not lie on the longitudinal path or a pulmonary vessel and are thus more likely pulmonary osteomas or calcified granulomas.

Discussion

The presence of an enlarged facial mass in an older dog suggested the possibility of neoplasia. It is common practice to survey the lungs radiographically for the presence of metastases before proceeding with specific procedures for suspected neoplasia. Metastatic foci in the lung are typically identified as variable sized soft tissue nodules. It is, however, uncommon for metastatic nodules to be mineralized. The possibilities for very opaque small nodules would more likely be end-on views of pulmonary vessels (perhaps superimposed by rib shadows) or micronodular pulmonary calcification. End-on vessels could be determined by their being along a longitudinal shadow of a vessel (Fig. 2).

Both pulmonary calcification and ossification have been identified in the dog. They cannot be differentiated without microscopic identification. Pulmonary ossification is a form of heterotopic bone formation and is due to

calcification of a bony matrix.¹ It has been termed pulmonary osteoma. Their significance is unknown as they are seen in many older normal dogs. Collies and Boxers are the breeds often illustrated in the literature.^{1,2,3}

Micronodular pulmonary calcification has also been found to be due to old, healed granulomas of histoplasmosis.

References

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