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What's Your Radiographic Diagnosis?

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Presentation

A 4-year-old, spayed female, Saint Bernard presented for evaluation of a cough of 2 month's duration and skin lesions of 1-year duration. The cough had changed from dry to productive and was occurring with increasing frequency. Treatment with antibiotics had no effect. Physical examination revealed a productive cough. Thoracic auscultation was normal. Reddened areas of skin with scabs and drainage were found on the ventral abdomen and both hind legs. Temperature, pulse, and respiratory rate were normal. Thoracic radiographs were produced to evaluate the cough. (Figures 1 & 2)

Radiographic Findings

A focal 4x6-cm soft tissue opacity is seen in the dorsal region of the left cranial lung lobe. The opacity is solid and has well delineated cranial and caudal borders. The opacity is summated with the trachea but does not displace the trachea or alter the position of the cranial lobe bronchi. The remainder of the thoracic structures are within normal limits.

Fig 1. Lateral view of a 4 year-old St. Bernard presented with 2 months history of cough and 1 year duration of draining skin lesions on the ventral abdomen.

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**Discussion**

*Blastomyces dermatitidis* is one of the three common deep mycotic diseases of dogs. Roughly the eastern half of the United States is the endemic area for this soil saprophyte. The clinical forms of blastomycosis that have been identified are primary pulmonary infection, disseminated disease, and local cutaneous infection. The routes of infection are inhalation or direct cutaneous inoculation. The clinical manifestations depend on whether the disease remains localized to pulmonary tissue or becomes disseminated.

Young (2-4 years), male dogs of the larger breeds are reported to have the greatest risk of infection. In one series of dogs 43% showed clinical signs of skin lesions and 39% showed clinical signs of respiratory problems. The most common respiratory signs are dyspnea and/or cough. One report indicated finding pulmonary lesions in 65% of dogs and skin lesions in 32% of dogs with blastomycosis. The most commonly described radiographic finding is generalized diffuse miliary nodular interstitial pattern. However, mixed patterns of bronchial, interstitial, and alveolar components can be seen. Single granulomas are an uncommon finding and were not reported in a review of 40 dogs. Mediastinal and/or tracheobronchial lymph node enlargement is reported to occur in approximately 25% of patients.

The most common cause of a focal soft tissue mass effect in the lung is a primary lung tumor. Pulmonary lymphomatoid granulomatosis can cause single or multiple pulmonary masses, commonly hilar lym-

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**Radiographic Diagnosis**

Left cranial lobe mass effect. The age of the dog and the presence of draining skin lesions suggest mycotic granuloma as the most likely cause. Differentials of primary lung tumor, abscess, or lymphomatoid granulomatosis are considered less likely.

**Clinical Diagnosis**

The location of the pulmonary opacity against the chest wall allowed visualization by ultrasound. An ultrasound guided fine needle aspiration cytology sample was obtained that revealed *Blastomyces dermatitidis*. Skin lesion impression smears showed only inflammation, however, skin biopsies revealed pyogranulomatous lesions due to *Blastomyces*. 

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Figure 2. Ventral-Dorsal view of a 4 year-old St. Bernard presented with 2 months history of cough and 1 year duration of draining skin lesions on the ventral abdomen.
phadenopathy, and mixed pulmonary patterns. Age of dog is a significant differentiating feature between pulmonary mycosis and primary pulmonary neoplasia or lymphomatoid granulomatosis. The latter diseases are most common in dogs with a mean age of 10 years (but as young as 2 years) and 8 years (range 5-14) respectively. Diagnosis of mycotic disease is made by finding cytologic and or histopathologic confirmation of the mycotic organism.

References:


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