

## WHAT IS YOUR DIAGNOSIS

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### *Signalment*

A 10-year-old male mixed breed dog.

### *History*

This dog had presented a low-graded productive cough during the past 9 months. He had had pneumonia several times and always improved when antibiotics were administered. The dog had a high score of body condition without weight loss during treatment. Pneumonia usually recurred when medication was discontinued.

### *Clinical Examination*

Mucous membrane was mildly pale. Crackle lung sound was heard but heart murmur could not be detected via thoracic auscultation. Leukocytosis and increase of both renal and liver panels were noted from blood examination.

### *Radiographic Examination*

Plain right, left lateral and ventrodorsal thoracic radiographs were taken to identify the bronchial lesion and the pulmonary lesion impinging on bronchi.

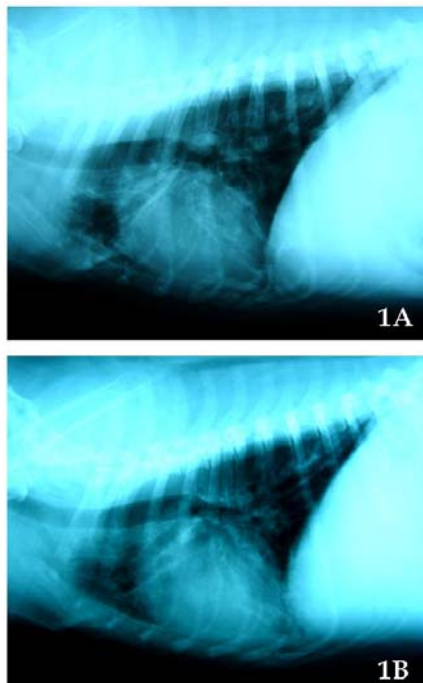


Figure 1A., B. Right and left lateral thoracic radiographs

Figure 2. Ventrodorsal thoracic radiograph

Give your diagnosis and turn to the next page.

### **Radiographic findings**

Plain right and left lateral thoracic radiographs (Figures 1A and B) revealed a generalized bronchial dilation with mild thickening of the bronchial wall especially on the main stem bronchi surround the hilar area. The loss of the normal tapering of the bronchial wall could be seen on the lung field without heart silhouette superimposition.

Trachea was radiographically normal. Additionally, generalized mild interstitial lung infiltration was detected from all radiographs (Figures 1A, B and 2). Plain ventrodorsal thoracic radiograph (Figure 2) also revealed interlobar fissure lines in both sides of thorax.

### **Radiographic diagnosis**

Bronchiectasis

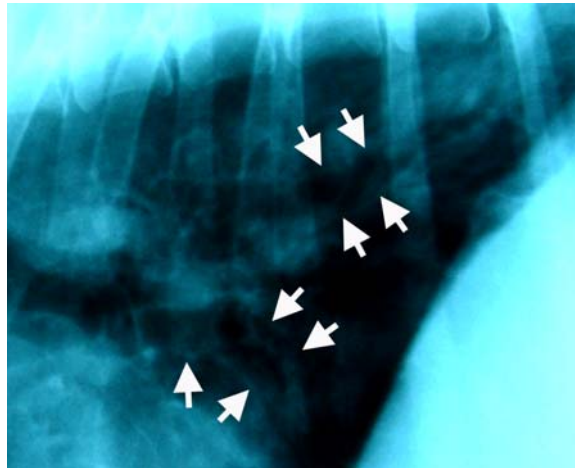


Figure 3. The dilated bronchi and the loss of the normal tapering of the bronchial wall (arrows) were clearly seen on the caudal lung field of the right lateral thoracic radiograph.

### **Discussion**

Bronchiectasis means irreversible dilation of pathological bronchi. This bronchial wall change is a result of chronic inflammation and/or infection harming the respiratory epithelium and submucosa. The most common clinical sign is chronic coughing. Other signs include dyspnea, tachypnea and posttussive retching, all of which were usually found in old dogs. Thoracic radiography is a useful diagnostic tool to investigate bronchial disorders. A severity of the bronchiectasis can be classified using several radiographic appearances. Tubular dilation of the proximal bronchial segments that fail to taper toward peripheral bronchi demonstrated mild to moderate degree of bronchiectasis (cylindrical bronchiectasis). In severe or advanced cases of bronchiectasis (saccular bronchiectasis), one or more

balloon-like dilations of distal/terminal bronchi can be observed. Compared to other methods, computed tomography is superior to detect mild dilation and thickening of bronchial wall of bronchiectasis at early stage. An early diagnosis is necessary for not only treatment initiation, improvement of the quality of life but also increase of survival time.

### **References**

- Angela, J.M. and Margaret, A.B. 2006. Bronchiectasis. *Comp. Cont. Edu. Pract. Vet.* 28(11): 766-775.
- Christopher, R.L. 2002. The canine and feline lung. In: *Textbook of Veterinary Diagnostic Radiology*. 4<sup>th</sup> ed. D.E. Thrall (ed.) Pennsylvania: W.B. Saunders Company. 431-449.