

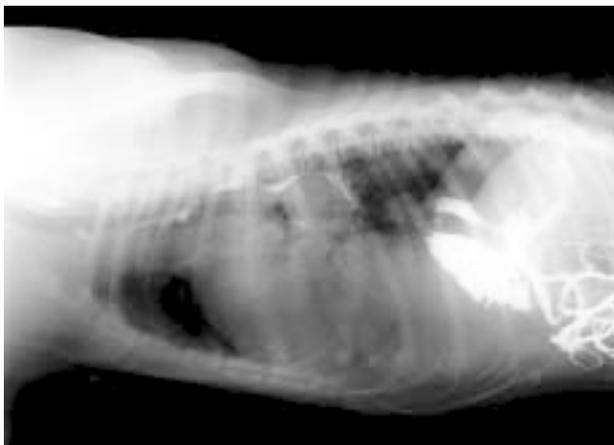
## What is Your Diagnosis

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(B)

**Figure 1. A, B.** Plain ventrodorsal and lateral thoracic radiographs



**Figure 2** Lateral thoracic radiograph after the administration of positive contrast medium

### Signalment :

8-year-old female Bernese Mountain dog.

### History :

The dog had been presented with panting and a decrease of exercise tolerance for a month. Appetite was initially normal; however it began to decrease gradually during the past week.

### Clinical Examination :

The dog was slightly underweight. Blood tests revealed mild elevation of liver enzymes, SGPT and ALP.

### Radiographic Examination :

Thoracic radiographs of lateral and ventrodorsal views were taken. Positive contrast studies, esophagram and gastrogram, were performed to check esophageal abnormality and to rule out peritoneopericardial diaphragmatic hernia.

Give your diagnosis and turn to the next page.

### Radiographic findings :

Plain radiographs (Fig.1 A, B) showed 2 soft tissue masses, 3x4 cm<sup>2</sup> above the tracheal bifurcation in lateral view and 7x8 cm<sup>2</sup> in front of the mid-diaphragm in the lateral and ventrodorsal view. Positive contrast thoracic radiograph (Fig. 2) showed the elevated esophagus and depressed tracheal bifurcation caused by the mass. The barium-filled pyloric antrum and proximal duodenum were within the caudal aspect of the normal diaphragm.



**Figure 3.** Ultrasonogram shows a slightly inhomogeneous, hypoechoic, and well delineated pulmonary mass.

### Discussion

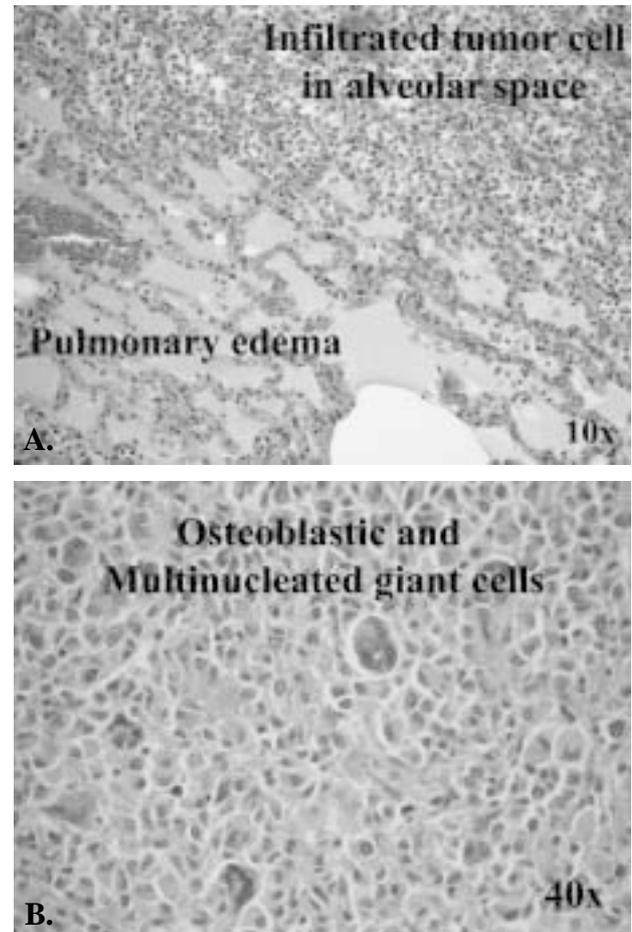
An enlargement of the tracheobronchial lymph node can possibly result in an elevation or depression of the tracheal bifurcation on the lateral view as well as a divergence or a separation of the bronchi on the ventrodorsal or dorsoventral views. This lymph node enlargement may be resulted from primary lung tumor due to the fact the afferent vessels of the lymph node connect to the lung and bronchi. There is the evidence that right lateral ventrodorsal view is occasionally adequate for the detection of pulmonary masses or metastasis, however it also depends on the position of the mass in the lung. Therefore, both left and right lateral and ventrodorsal views should be performed to avoid misdiagnosis. Ultrasonography may be useful when the pulmonary mass can not be fully identified by radiography. According to the histogram, the final diagnosis was pulmonary osteosarcoma (Fig. 4) which is a rare primary lung tumor in the dog.

### Radiographic diagnosis :

Enlargement of the tracheobronchial lymph node,  
Pulmonary mass

### Follow-up :

Ultrasonographic examination was taken to evaluate the mass located in front of the mid-diaphragm. Histopathology of masses was reported a month after the dog had been dead.



**Figure 4. A, B.** Histopathology the delimited region of neoplasm involving pulmonary parenchyma and infiltrated tumor cell presented osteoblastic and multinucleated giant cells in alveolar space.

### References

Thrall, D.E. 2002. The mediastinum and the canine and feline lung. In: Textbook of Veterinary Diagnostic Radiology. 4<sup>th</sup>ed. W.B Saunder company. Pennsylvania. 376-389, 431-449.