

What Is Your Diagnosis?

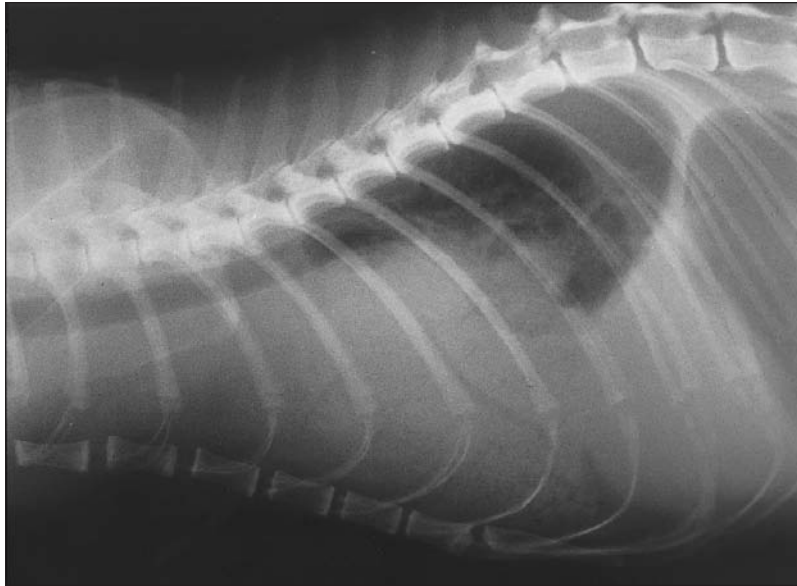


Figure 1—Right lateral radiographic view of the thorax of a 19-year-old cat with a 2-week history of dyspnea and poor appetite.

History

A 19-year-old castrated male domestic shorthair cat was examined because of open-mouth breathing. The cat had had a poor appetite, difficulty breathing, and intermittent gagging episodes during the preceding 2 weeks. Eight months before examination, hyperthyroidism was diagnosed elsewhere. Treatment with methimazole had been initiated but was discontinued after a few weeks. Physical examination revealed pronounced abdominal respiratory effort, a compressible thoracic cavity, heart rate of 240 beats/min with arrhythmia, and dull lung sounds that were more apparent on the left. Severe dental disease and a rough coat were also noticed. Thoracocentesis yielded 120 ml of serosanguineous fluid from the left side and 135 ml of straw-colored fluid from the right side of the thoracic cavity. A right lateral thoracic radiographic view was obtained (Fig 1).

Determine whether additional imaging studies are required, or make your diagnosis from Figure 1—then turn the page ▶

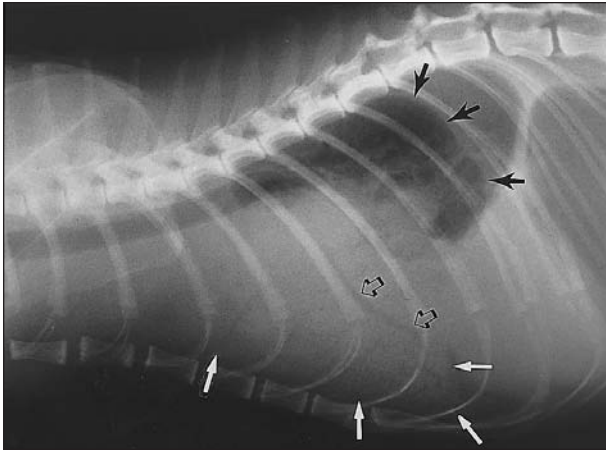


Figure 2—Same radiographic view as in Figure 1. Notice the diffuse opacification of most of the thoracic cavity with lobar consolidation in the caudoventral area (white arrows denote the approximate outlines of the lung lobe). Alveolar opacification with airbronchograms are evident in the affected lobe. The largest air-filled bronchus (open arrows) is oriented in an abnormal caudoventral direction. The dorsocaudal lung lobes are rounded with scalloped margins (black arrows). Increased opacity is evident caudal to these borders. The cardiac silhouette is obscured and the trachea is elevated.

Diagnosis

Radiographic diagnosis—Chronic fibrosing pleuritis, pleural effusion, and lobar consolidation (Fig 2).

Comments

Radiographic differential diagnoses of lung lobe consolidation include pneumonia, hemorrhage, atelectasis, neoplasia, edema, and lobar torsion.¹ Other diagnostic procedures (eg, thoracocentesis, ultrasonography, and bronchoscopy) may help differentiate among these conditions, but definitive diagnosis of lobar torsion requires thoracotomy¹ or thoracoscopy. Because of the age and poor condition of this cat, it was euthanatized. Necropsy revealed torsion of the cranial left lung lobe, moderate hydrothorax, and severe fibrosing pleuritis with nodular contraction of all right lung lobes and the caudal left lobe. Severe fibrosing pericarditis, cardiomegaly attributable to hypertrophy of the left and right ventricles, and adenomatous hyperplasia of the thyroid gland were additional gross findings.

Lung lobe torsion is rarely reported in cats.^{1,2} Most affected cats have an associated condition, such as chylothorax, pyothorax, mediastinal lymphoma, a combination of cardiac and renal disease,¹ or chronic feline asthma.² Typical radiographic findings in cats and dogs are lobar consolidation and pleural effusion.^{1,3} In acutely affected animals, air bronchograms, which may highlight airways in abnormal orientation, may be seen but disappear within 2 to 3 days as the air is absorbed and replaced by fluid.⁴ In some cases, radiographic findings may be nondiagnostic.³

Hyperthyroidism had previously been diagnosed in the cat of this report, but was essentially left untreated. Evidence of hyperthyroidism, including a rough coat, adenomatous hyperplasia of the thyroid glands, and hypertrophic cardiomyopathy, detected during physical examination and necropsy suggested that this cat had hyperthyroidism. Although some of the pleural effusion, especially the serosanguineous fluid on the left side, was likely attributable to the lobar torsion, some probably reflected preexisting cardiac dysfunction. A relationship between chylothorax and fibrosing pleuritis has been reported in cats⁵; however, the relationship between pleural effusion and fibrosing pleuritis in the cat of this report is unclear. Both conditions may have served as predisposing factors for the development of lobar torsion.

1. Sherding RG. Diseases of the pleural cavity. In: Sherding RG, ed. *The cat—diseases and clinical management*. Vol 1. New York: Churchill Livingstone Inc, 1994;1082.

2. Dye T, Teague HD, Poundstone ML. Lung torsion in a cat with chronic feline asthma. *J Am Anim Hosp Assoc* 1998;34:493–495.

3. Johnston G, Feeney D, O'Brein T, et al. Recurring lung lobe torsion in three Afghan Hounds. *J Am Vet Med Assoc* 1984;184:842–845.

4. Nelson A. Lower respiratory system. In: Slatter D, ed. *Textbook of small animal surgery*. Philadelphia: WB Saunders Co, 1993;797–798.

5. Fossum TW, Evering WN, Miller MW, et al. Severe bilateral fibrosing pleuritis with chronic chylothorax in five cats and two dogs. *J Am Vet Med Assoc* 1992; 201:317–324.

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