

# What Is Your Diagnosis?

In cooperation with

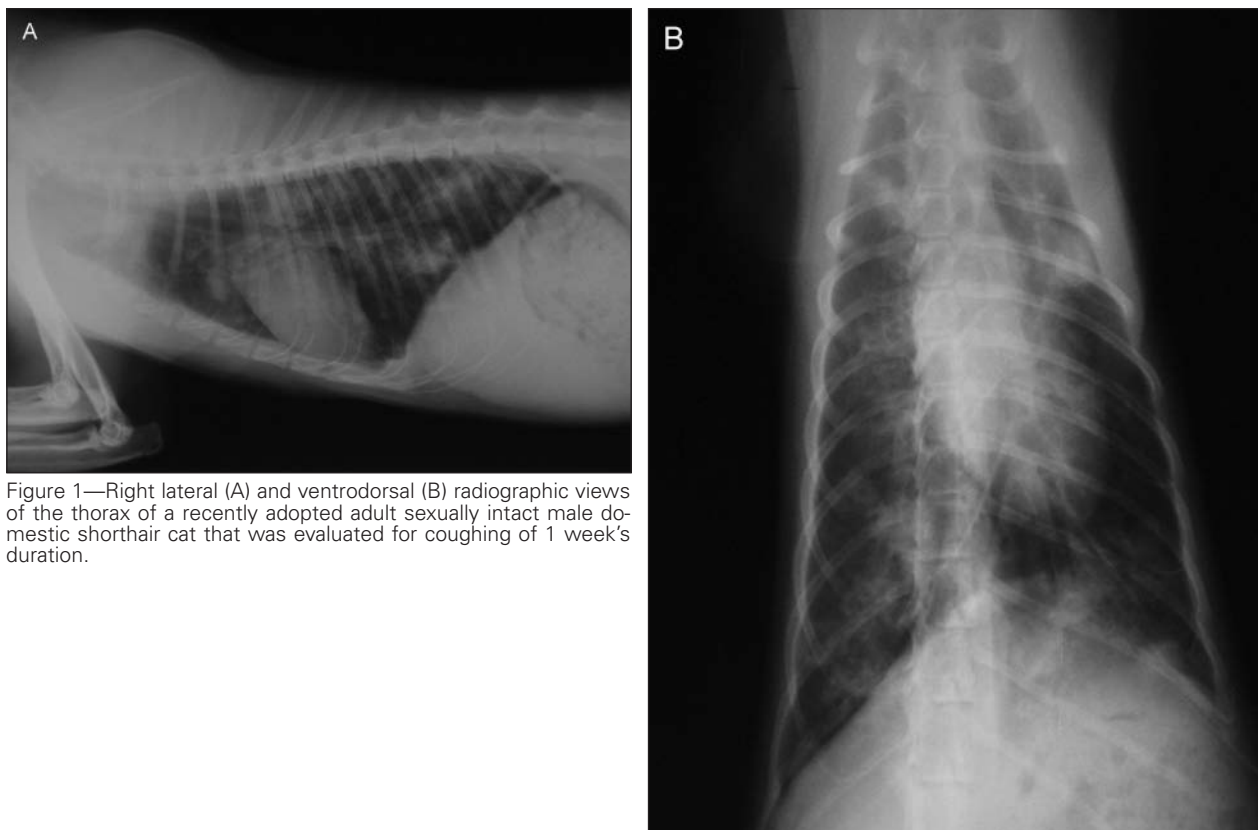


Figure 1—Right lateral (A) and ventrodorsal (B) radiographic views of the thorax of a recently adopted adult sexually intact male domestic shorthair cat that was evaluated for coughing of 1 week's duration.

## History

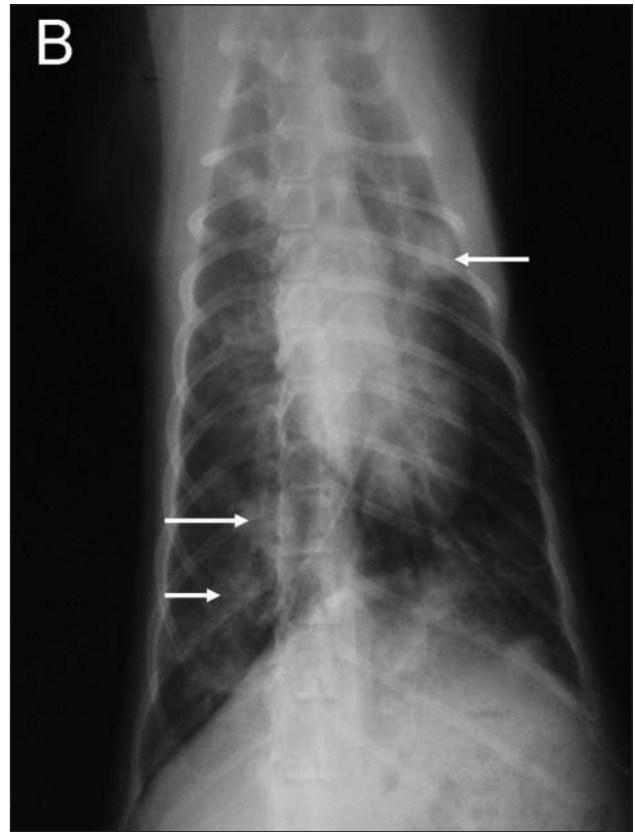
An approximately 4-year-old sexually intact male domestic shorthair cat was evaluated for coughing of 1 week's duration. The cat was a stray that had been adopted 1 week earlier. Physical examination revealed that the cat was thin (body condition score, 2/9). An increase in respiratory sounds was detected during auscultation of the lungs in all lung fields, but no crackles were discerned. There was no ocular or nasal discharge observed. Results of FeLV and FIV tests were negative. A CBC or serum biochemical analysis was not performed because these diagnostic tests were declined by the owner. A fecal sample was examined for parasite ova by use of a zinc sulfate centrifugation flotation technique, which revealed many large amber colored, single-operculated ova. Radiographs of the thorax were obtained (Figure 1).

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

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Figure 2—Same radiographic images as in Figure 1. On the lateral view, notice the diffusely distributed, well to poorly circumscribed nodules, of which some appear cavitated (arrows). On the ventrodorsal view, the thorax is rotated causing the apex of the heart to be shifted to the left; notice that the soft tissue opacities (nodules; arrows) are most common in the right caudal lung lobe.



### Radiographic Findings and Interpretation

Multiple, diffusely distributed pulmonary soft tissue opacities, up to 2.5 cm in diameter, are visible (Figure 2). The soft tissue opacities are more pronounced in the caudodorsal aspect of the lung field. The nodules are well to poorly circumscribed, and some nodules contain a gas opacity, indicating a cavitated lesion. The cranial aspect of the thorax cannot be fully assessed on the lateral view because of overlap of the soft tissue of the forelimbs. The liver extends beyond the costal arch, and caudal displacement of the stomach is evident. The thorax is rotated on the ventrodorsal view causing the heart apex to shift to the left. The severe, widespread lung lesions are nonspecific. The differential diagnoses for these diffuse cavitated nodules include parasitic and fungal pneumonia, neoplastic disease, and eosinophilic bronchopneumopathy.<sup>1</sup> The enlarged liver may be the result of hepatomegaly or diaphragmatic displacement associated with increased respiratory effort.

### Comments

Ova identified on microscopic examination of feces via the zinc sulfate centrifugation flotation technique were from the lung fluke *Paragonimus kellicotti*.<sup>2</sup> The cat was evaluated for coughing and had radiographic findings of diffusely distributed well to poorly circumscribed nodules in the lungs, of which some appeared cavitated. These findings, coupled with presence of *P kellicotti* ova on fecal flotation, led to a diagnosis of lung fluke infestation. Radiographic lesions resulting from *P kellicotti* infection are most commonly found in the right caudal lung lobe, as was true for the cat of this report.<sup>3</sup>

*Paragonimus kellicotti* is the most common lung fluke of dogs and cats. Clinical signs of a *P kellicotti* infection in dogs and cats can be nonspecific, with chronic coughing reported as the most common finding.<sup>2,3</sup> However, cats can have an acute respiratory crisis re-

sulting from rupture of a parasitic cyst and an ensuing pneumothorax.<sup>3</sup> A CBC was not determined for the cat of this report at the time of admission, but eosinophilia would have been a probable finding.<sup>1</sup>

Examination of feces for parasite ova by use of a zinc sulfate centrifugation flotation technique was essential for an accurate diagnosis of *P kellicotti* infection in the cat of this report. The owner's decision to treat the cat was made on the basis of finding the parasitic ova that could explain the radiographic findings and the reason for the cat's coughing. The cat was treated with fenbendazole orally every 24 hours for 14 days. The owners were also advised to keep the cat indoors to prevent reinfection with the lung fluke. After the initial 2-week treatment period, the owner reported the cat's coughing had greatly improved but was not resolved. Therefore, fenbendazole was continued at the original dosage for an additional 7 days. Thereafter the cat was brought to the clinic for a recheck evaluation. Thoracic radiography at that time revealed that all of the cystic lung lesions had resolved. No parasitic ova were found on recheck examination of feces 2 months later. The cat of this report has done well following treatment with only occasional coughing reported.

1. Ridge LG. Lung parasites. In: Cote E, ed. *Clinical veterinary advisor: dogs and cats*. St Louis: Mosby Inc, 2007;643–644.
2. Sherding R. Parasites of the lung. In: Lesley KG, ed. *Textbook of respiratory disease in dogs and cats*. St Louis: Elsevier, 2004;555–556.
3. Pechman RD. Respiratory parasites. In: *The cat: diseases and clinical management*. Vol 1. New York: Churchill Livingstone Inc, 1989;491–493.