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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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 cavitiated 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 cavitat ed nodules include parasitic and fungal pneumonia, neoplastic disease, and eosinophilic bronchopneumopathy. 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*. 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 cavitat ed. These findings, coupled with presence of *P kellicotti* ova on fecal flotation, led to a diagnosis of lung fluke infection. 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. 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 cavitat ed nodules include parasitic and fungal pneumonia, neoplastic disease, and eosinophilic bronchopneumopathy. The enlarged liver may be the result of hepatomegaly or diaphragmatic displacement associated with increased respiratory effort.

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. 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.