What Is Your Diagnosis?

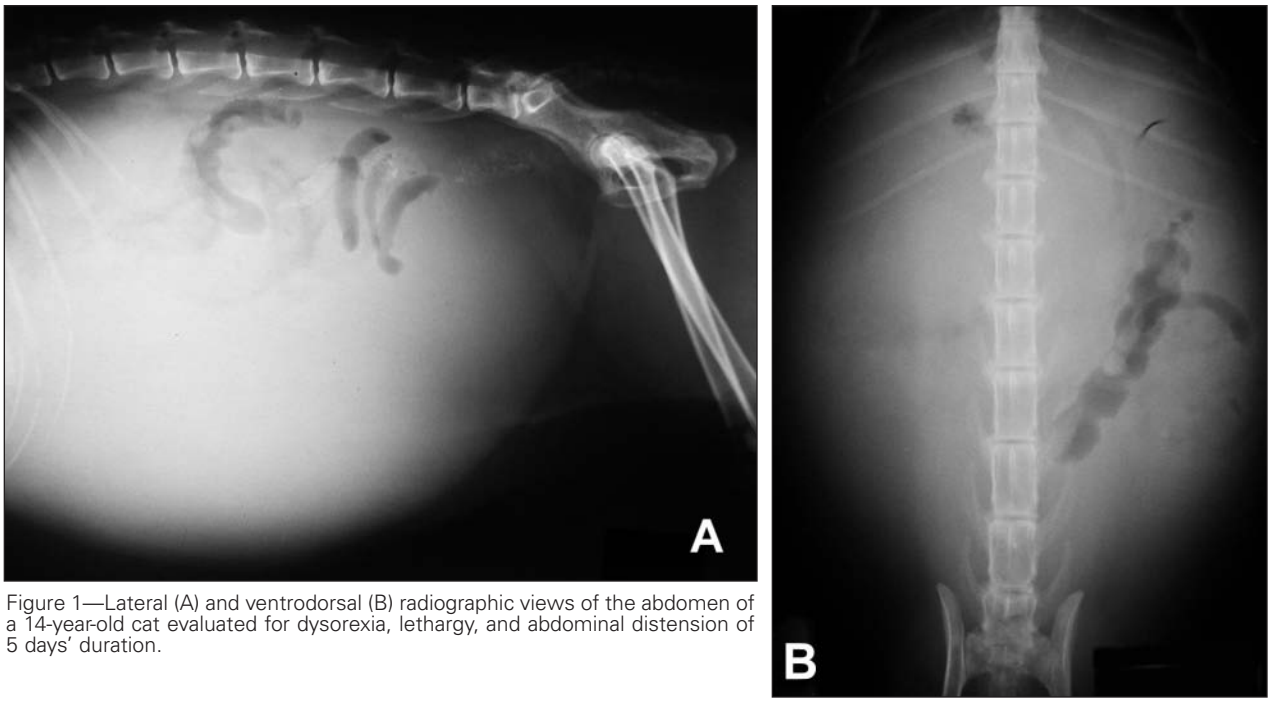

Figure 1—Lateral (A) and ventrodorsal (B) radiographic views of the abdomen of a 14-year-old cat evaluated for dysorexia, lethargy, and abdominal distension of 5 days' duration.

History

A 14-year-old neutered male domestic shorthair cat was evaluated because of dysorexia, lethargy, and abdominal distension of 5 days' duration. On physical examination, the cat had signs of depression, was mildly dehydrated, and had pale mucous membranes. Results of thoracic auscultation indicated a grade 2/6 cardiac murmur and tachycardia (240 beats/min; reference range, 140 to 220 beats/min). The cat was thin despite abdominal distension. Percussion of the abdomen revealed a fluid wave compatible with abdominal effusion.

Serum biochemical abnormalities included high concentrations of BUN (37.6 mg/dL; reference range, 6.0 to 22.0 mg/dL) and creatinine (2.1 mg/dL; reference range, 0.6 to 1.2 mg/dL). Urinalysis revealed moderate to severe proteinuria (3+ on dipstick) and mild glycosuria (1+), with a urine specific gravity of 1.022 (reference range, 1.030 to 1.060). Radiographs of the abdomen were obtained **(Fig 1)**.

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

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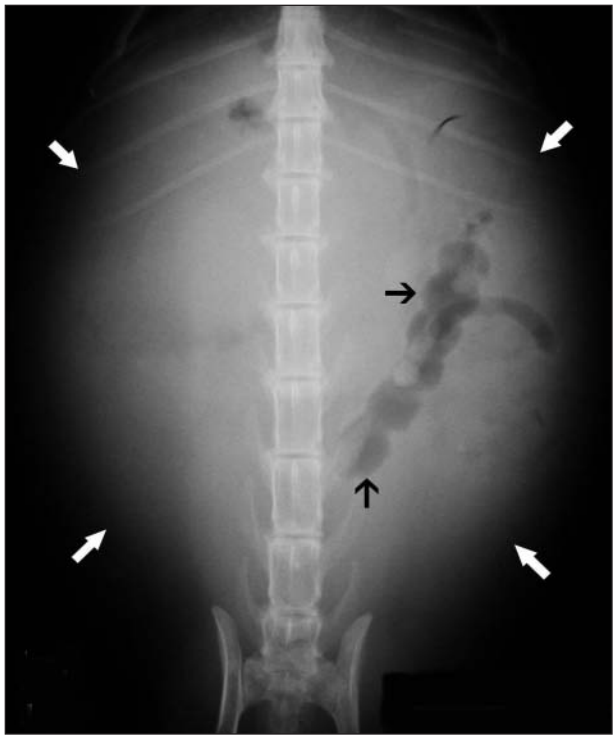

Figure 2—Same ventrodorsal radiographic view as in Figure 1. Notice the abdominal distension (white arrows) with loss of intra-abdominal contrast and decreased visibility of serosal surfaces of the small and large intestines, which are displaced dorsally and to the left (black arrows).

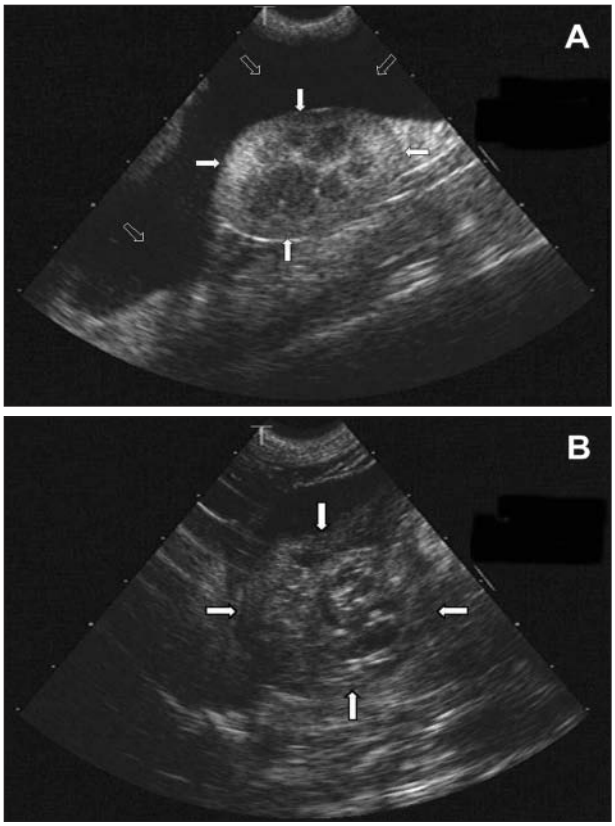

Figure 3—Sonograms of the abdomen of the cat in Figure 1. A—Notice the nearly anechoic free abdominal fluid (open arrows) adjacent to the right kidney (white arrows). B—Heterogeneous splenic mass (white arrows) with multiple small ill-defined hypoechoic areas.

Diagnosis

Radiographic diagnosis—Abdominal distension with loss of intra-abdominal contrast and decreased visibility of serosal surfaces of the small and large intestines, which are displaced dorsally and to the left (**Fig 2**).

Comments

Radiographic findings suggested the presence of a large mass in the abdomen associated with abdominal effusion. Abdominocentesis revealed a clear, amber-colored fluid with a total protein concentration of 2.5 g/dL and a specific gravity of 1.024. Cytologic examination of the abdominal fluid revealed moderate cellularity (1,700 cells/µL) that was predominantly macrophages and small lymphocytes with a few nondegenerate neutrophils, compatible with a modified transudate. Neoplastic cells were not detected.

No abnormalities were detected on echocardiography of the thorax. Ultrasonography of the abdomen revealed a large amount of nearly anechoic free abdominal fluid and marked splenomegaly (**Fig 3**). The splenic parenchyma appeared normal except for a large heterogeneous mass (6 cm in diameter) with multiple small, ill-defined, hypoechoic areas. Ultrasound-guided abdominocentesis was performed, and 400 mL of fluid was removed from the abdomen and an ultrasound-guided percutaneous fine-needle aspirate of the spleen was obtained. Results of cytologic examination of the latter were consistent with splenic hemangiosarcoma.

Because of the poor prognosis, the owners chose to euthanatize the cat, and necropsy was performed. Histologic examination confirmed splenic hemangiosarcoma and severe peritoneal metastasis.

Neoplastic diseases are the most predominant type of pathologic lesion of the spleen in cats.[1,2] Mastocytoma and lymphosarcoma are the most common splenic neoplasms in cats, myeloproliferative diseases occur less frequently, and hemangiosarcomas are rare.[2,3] Nonneoplastic and neoplastic splenic masses are indistinguishable with ultrasonography; therefore, cytologic or histologic examination is required for a definitive diagnosis.[1]

Acute onset of clinical signs caused by rupture of the spleen has been reported in 70% of cats with hemangiosarcoma. Pale mucous membranes, dyspnea, anemia, and peritoneal fluid containing blood are the most frequent findings in these cats.[4] Because the splenic mass had not ruptured in the cat of this report, the abdominal effusion was most likely caused by peritoneal metastasis.

1. Hanson JA, Papageorges M, Girard E, et al. Ultrasonographic appearance of splenic disease in 101 cats. *Vet Radiol Ultrasound* 2001; 42:441–445.

2. Spangler WL, Culbertson MR. Prevalence and type of splenic diseases in cats: 455 cases (1985–1991). *J Am Vet Med Assoc* 1992;201:773–776.

3. Kraje AC, Mears EA, Hahn KA, et al. Unusual metastatic behavior and clinicopathologic findings in eight cats with cutaneous or visceral hemangiosarcoma. *J Am Vet Med Assoc* 1999;214:670–672.

4. Patnaik AK, Lui SK. Angiosarcoma in cats. *J Small Anim Pract* 1977;18:191–198.