

What Is Your Diagnosis?

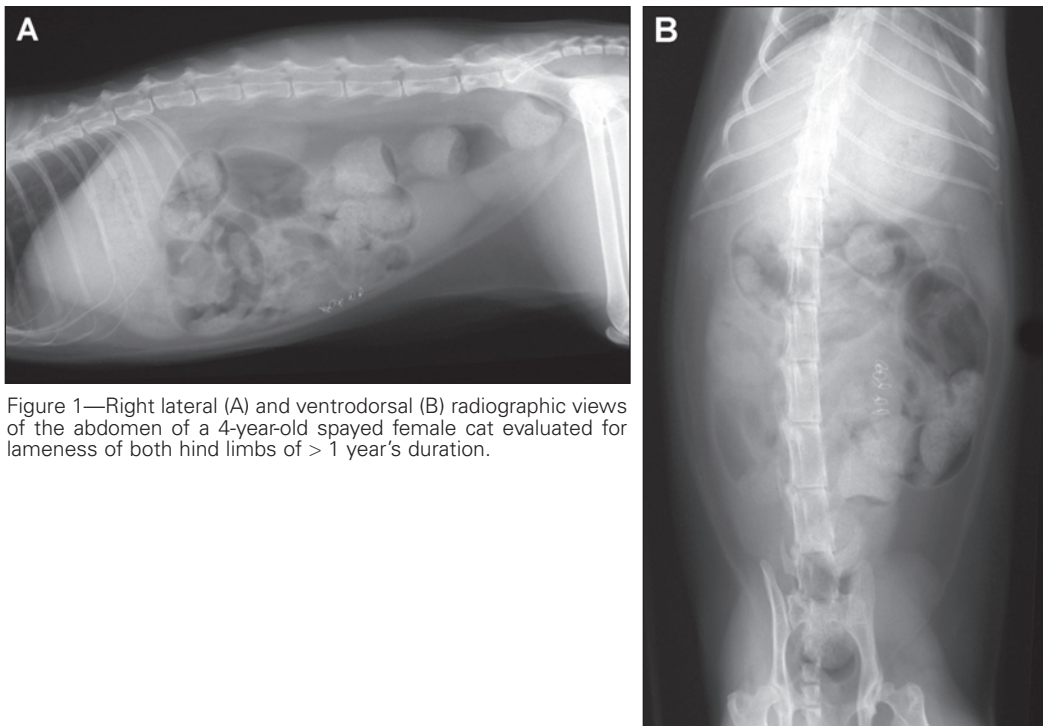


Figure 1—Right lateral (A) and ventrodorsal (B) radiographic views of the abdomen of a 4-year-old spayed female cat evaluated for lameness of both hind limbs of > 1 year's duration.

History

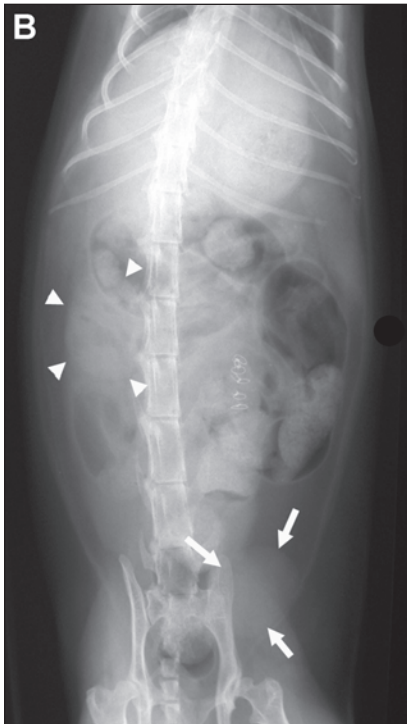
A 4-year-old spayed female domestic shorthair cat was referred for evaluation of lameness of both hind limbs of > 1 year's duration. Reportedly, a mass had been palpated in the caudal portion of the abdomen by the referring veterinarian during the lameness examination. On physical examination, the cat was ataxic and had a wide-based stance. Manipulation of the hip joints elicited signs of pain, and grade 2 medial patellar luxation was detected in both hind limbs. A round, smooth, and well-circumscribed mass (approx 3 cm in diameter) was palpated in the caudal portion of the abdomen. Radiographs of the abdomen 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 views as in Figure 1. Notice the right kidney (arrowheads) and the absence of the left kidney in its expected position. There is a 3.5 × 2.5-cm homogeneous ovoid soft tissue opacity caudal and to the left of the urinary bladder (arrows), consistent with an ectopic left kidney. Bilateral subluxation and degenerative joint disease of the hip joints are evident.



Radiographic Findings and Interpretation

A homogeneous ovoid soft tissue opacity measuring 3.5 × 2.5 cm can be seen in the caudal portion of the abdomen on the left side (Figure 2). The right kidney can be seen; however, the left kidney is not in its normal location, potentially indicating left-sided renal ectopia. Other differential diagnoses include left-sided renal agenesis with a concurrent mass originating from the uterine stump, a large lymph node in an abnormal location, or a mass lesion originating from the left ureter. Bilateral subluxation of the hip joints and degenerative joint disease are evident.

Comments

Ultrasonography of the abdomen was performed. Ultrasonographically, the left kidney can be clearly identified caudal and to the left of the urinary bladder (Figure 3). The left kidney is smaller than the right kidney, but otherwise appears normal in structure and echotexture.

Embryologically, the metanephric kidney forms in the pelvic region of the embryo. It ascends as a result of

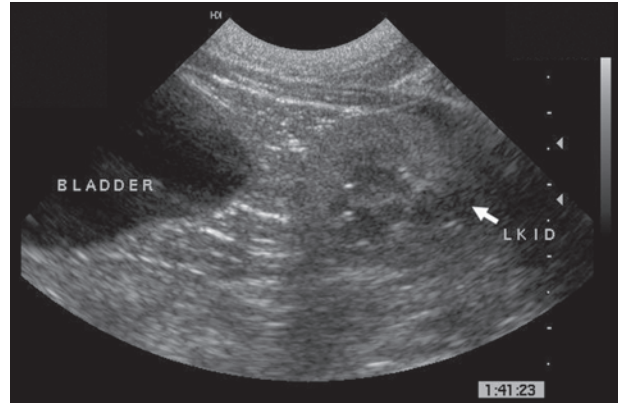


Figure 3—Sagittal ultrasonographic image of the caudal portion of the abdomen of the cat in Figure 1. Notice the left kidney (arrow) is caudal to the urinary bladder.

growth and elongation of the caudal aspect of the fetus, eventually becoming situated ventral to the cranial lumbar vertebrae.¹ Ectopic kidneys are misplaced from their normal location by abnormal migration and may be found in a pelvic, iliac, or abdominal position on the same or opposite side of the abdomen.^{2,3} They occur most frequently in pigs,⁴ but have also been described in other species, including humans,⁵ dogs,² and cats.³

Ectopic kidneys are commonly structurally and functionally normal. However, they may be abnormally small,^{3,4} and the short ureter may be kinked, predisposing to obstruction and secondary hydronephrosis or pyelonephritis.^{4,6} In the cat of this report, the kidney appeared ultrasonographically normal and there was no evidence of hydronephrosis. The abnormal position of the kidney, which prompted the erroneous diagnosis of a mass during abdominal palpation, was therefore considered an incidental finding. The orthopedic findings of bilateral medial patellar luxation and degenerative joint disease of both hip joints explain the hind limb lameness. Further neurologic examination of the hind limb ataxia and treatment of the bilateral patellar luxation and hip degenerative joint disease were declined by the owners.

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