What Is Your Diagnosis?

History

A 2-year-old neutered male domestic cat was referred for possible perineal urethrostomy because of a history of recurring bouts of cystitis and urethral obstruction. Results of the physical examination were unremarkable, and the bladder was easily expressed. Results of serum biochemical analysis and a CBC from the referring veterinarian were within reference limits except for a high concentration of glucose (166 mg/dL; range, 76 to 145 mg/dL). Abdominal ultrasonography was performed to further evaluate the urinary bladder (Figure 1).

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

Figure 1—Transverse ultrasonographic image of the liver and gallbladder of a 2-year-old neutered male domestic cat with a history of recurring bouts of cystitis and urethral obstruction.
Diagnostic Imaging Findings and Interpretation

An anechoic gallbladder with 2 distinct chambers is visible on a transverse ultrasonographic image of the right cranial portion of the abdomen (Figure 2). During real-time imaging, it was determined that each chamber had its own cystic duct that united prior to the hepatic duct. An incidental diagnosis of vesica fellea duplex or double gallbladder was made.

Comments

Vesica fellea duplex, or double gallbladder, is a type of congenital anomaly. Congenital anomalies affecting the gallbladder are not common in domestic animals and include absence of the gallbladder, partial or complete duplication of the gallbladder, and absence or atresia of 1 or more ducts.1

Gallbladder anomalies can be classified by their position or form. Alterations in gallbladder position include intrahepatic, floating, transverse, and retroperitoneal locations. Anomalies in form are categorized as vesica fellea divisa or vesica fellea duplex according to the Boyden classification.2 Accessory gallbladders are found in about 8% of cats (315 of 2,568 cats) and have also been reported in cattle,3 swine, sheep,2 rabbits,4 and humans.1,2 In cats, they are generally an incidental finding not associated with a higher incidence of cholecystic lesions.2

Vesica fellea duplex refers to gallbladders that have 2 vesicles, each with its own cystic duct. They can be further classified as the Y-shaped type or the ductular type.5 As in the cat of this report, the Y-shaped type has 2 cystic ducts that join in a common stem prior to joining the hepatic duct.6 This is the rarest type of accessory gallbladder (3 in 315 cases).2

Chronic urinary cystitis secondary to a urachal diverticulum was ultimately diagnosed in the cat of this report. The urachal diverticulum was corrected surgically, and amoxicillin trihydrate/clavulanate potassium and phenoxybenzamine were administered for treatment of the cystitis. Ultrasonographers should recognize double gallbladder as an uncommon anomaly in cats that usually is not associated with underlying pathologic lesions.