



**PATIENT**

Boo Furman

**PRESENTING CLINICAL SIGNS**

History: 18 yo FS DSH history of unregulated hyperthyroidism and CKD, history of inappropriate urination and hematuria. Acute large bowel diarrhea  
Abnormal PE/Chem/CBC/UA Results: BUN: 58 creatinine 1.3 T4: 14 (on 5mg methimazole Q12)

**SPECIES**

Feline

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**BREED**

Domestic Shorthair

**Urinary System**

The urinary bladder is not well distended (Boo urinates if fully distended), however, its contents are anechoic. An accurate measurement of wall thickness is not possible. The wall is very mildly irregular in certain regions. There are no obvious signs of sediment, cystoliths, polyps, or a mass. A partial view of the trigone did not show any abnormalities.

**SEX**

Spayed Female

**Kidneys**

**AGE**

18 years

The **left** kidney measures 3.64 cm (3.80-4.40 cm). The capsule is smooth. The cortex is hyperechoic, i.e., it is isoechoic to the spleen. A mild loss of the normal definition of the cortico-medullary junction is present. The medulla is hyperechoic. There are no signs of nephroliths. Very mild (physiological) pyelectasia (longitudinal 1.18 mm) is present. The surrounding mesentery is hyperechoic. In the longitudinal view, a very small amount of anechoic fluid is noted surrounding the caudal border of the kidney, but appears well contained. A slightly larger amount of fluid that appears encapsulated is noted in the transverse view. One could suspect a perinephric renal cyst with cellular debris in a few of the views, particularly when evaluating the *right* kidney, however, the cystic structure is within the liver (see below).

**WEIGHT**

4.8 lbs

The **right** kidney measures 3.75 cm (3.80-4.40 cm). The capsule is smooth. The cortex is hyperechoic. A mild loss of the normal definition of the cortico-medullary junction is present. The medulla is hyperechoic. There are no signs of nephroliths. Very mild (physiological) pyelectasia (transverse 1.66 mm) is present. The surrounding mesentery is hyperechoic.

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING PERFORMED BY**

Dr. Petrone

**Aortic bifurcation/trifurcation**

No abnormalities observed.

**HOSPITAL NAME**

Long Branch AH

**Adrenal Glands**

The **left** adrenal gland is not visualized.

**REFERRING VET**

Dr. Petrone

The **right** adrenal gland measures 0.33 cm in diameter. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

**INVOICE**

30858

**Spleen**

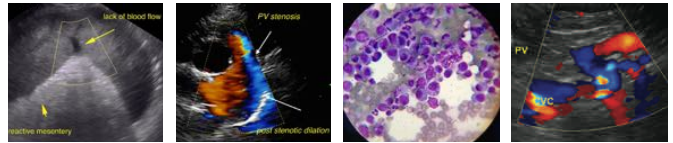
The spleen is within normal limits in size 7.7 mm (normal = 10 mm), echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

**DATE**

6/6/22



<b>PATIENT</b>	<b>Liver</b>
Boo Furman	Hepatomegaly is suspected, however, this is better characterized at the time of the ultrasound or with radiographs. The liver's borders are smooth and mildly rounded. The majority of the liver is homogeneous. It is diffusely, but mildly hyperechoic.
<b>SPECIES</b>	
Feline	An anechoic structure with a thin, irregular capsule, is visualized within the right liver. It is consistent with a cyst. It is not perfectly round, i.e. its borders are scalloped and some of its contents are echogenic and free floating. It measures 2.47 mm (diameter) x 2.82 cm (length). The surrounding parenchyma is severely hyperechoic. Multiple, smaller cystic structures are noted in other views.
<b>BREED</b>	
Domestic Shorthair	The gallbladder (GB) wall is within normal limits in thickness and echogenicity. A small amount of echogenic material is present within the GB and the neck of the cystic duct. The portion of the cystic duct observed is not dilated or tortuous, i.e. there are no signs of an obstruction. The common bile duct is not visualized.
<b>SEX</b>	
Spayed Female	
<b>AGE</b>	<b>Gastrointestinal</b>
18 years	The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.
<b>WEIGHT</b>	Fogging of the duodenum is observed. Jejunum: moderate fogging of the mucosa and mild to moderate thickening of the muscularis. A few loops of jejunum are thickened, measuring up to 0.32 cm.
4.8 lbs	Ingesta is present within the transverse colon.
<b>INTERPRETED BY</b>	The colonic wall is not thickened and mural detail is preserved, however, the muscularis is more prominent than usual, i.e., same thickness as the mucosa. Soft stools are present within the lumen.
Lisa Carioto, DVM, DVSc, Diplomate ACVIM	<b>Pancreas</b>
<b>IMAGING PERFORMED BY</b>	No overt abnormalities are observed with the architecture, contours, echogenicity or echotexture of the pancreas. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.
Dr. Petrone	<b>Other</b>
<b>HOSPITAL NAME</b>	<b>Lymph nodes (LNs)</b>
Long Branch AH	Multiple mesenteric lymph nodes are slightly more prominent than usual and the surrounding mesentery is mildly hyperechoic.
<b>REFERRING VET</b>	Jejunal LNs are enlarged, both in diameter and length, and mildly heterogeneous in echogenicity.
Dr. Petrone	
<b>INVOICE</b>	<b>Abdominal effusion</b>
30858	A scant amount of anechoic fluid is visualized between two loops of jejunum.
<b>DATE</b>	
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PATIENT	ULTRASONOGRAPHIC FINDINGS
Boo Furman	<ul style="list-style-type: none"> <li>• <b>Liver:</b> A single large hepatic cyst with a possible secondary infection, i.e. echogenic fluid, and hyperechoic parenchyma surrounding the cystic structure. Multiple smaller cysts are also present. Cystadenomas, with a possible secondary infection of the largest one, are suspected. Cholangitis/cholangiohepatitis and cholecystitis cannot be excluded.</li> <li>• <b>Gallbladder:</b> Gallbladder sludge is often clinically insignificant, however, gastroesophageal reflux disease (GERD), can occur in some patients. Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid, proton pump inhibitor or ursodeoxycholic acid may be required. Cholecystitis cannot be excluded despite the absence of classical sonographic signs.</li> <li>• <b>Kidneys:</b> Changes consistent with age-related degeneration, however, pyelonephritis is suspected based on pyelectasia, hyperechoic mesentery and blood work results.</li> <li>• <b>Gastrointestinal tract and mesenteric lymphadenomegaly:</b> severe inflammation is suspected. The two main differential diagnoses include inflammatory bowel disease and infiltrative disease, such as lymphoma. Although the definition of wall layers is preserved, emerging lymphoma cannot be excluded. The mesenteric lymphadenomegaly may be due to reactive hyperplasia or infiltrative disease, such as lymphoma. Soft stools are present in Boo's colon (diarrhea is likely).</li> <li>• Scant amount of anechoic fluid possibly due to extravasation, which may occur secondary to severe IBD or lymphoma.</li> <li>• The inability to control Boo's hyperthyroidism may be due to multiple co-morbidities. Another possibility is an adenocarcinoma of the thyroid gland.</li> </ul>
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Domestic Shorthair	
<b>SEX</b>	
Spayed Female	
<b>AGE</b>	
18 years	
<b>WEIGHT</b>	
4.8 lbs	
<b>INTERPRETED BY</b>	<b>INTERPRETATION OF THE FINDINGS &amp; FURTHER RECOMMENDATIONS</b>
Lisa Carioto, DVM, DVSc, Diplomate ACVIM	Urine culture and sensitivity is pending.
<b>IMAGING PERFORMED BY</b>	The following are suggested/recommended
Dr. Petrone	<ul style="list-style-type: none"> <li>• Fine needle aspirates of the lymph nodes, +/- liver are recommended.</li> <li>• Drainage, cytology and culture and sensitivity of the large hepatic cyst is suggested, using a "closed system", i.e. needle, three-way stopcock, extension set and syringe.</li> <li>• A decrease in the methimazole dose is suggested pending further diagnostics, as renal decompensation may occur.</li> <li>• Diet trial (veterinary prescription brand hypoallergenic, hydrolyzed or novel protein)</li> <li>• If signs of GERD, 10-14 day trial with famotidine or omeprazole (0.7-1 mg/kg PO q12h)</li> <li>• TLI, serum cobalamin, folate to exclude underlying malabsorptive disease and exocrine pancreatic deficiency.</li> <li>• Endoscopy and biopsies of the upper <u>and</u> lower GI tract diet, if no response to deworming and diet trials</li> <li>• Steroids (1 mg/kg/day at a tapering dose) may be considered <i>if</i> further diagnostics are not pursued.</li> </ul>
<b>HOSPITAL NAME</b>	
Long Branch AH	
<b>REFERRING VET</b>	
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<b>INVOICE</b>	
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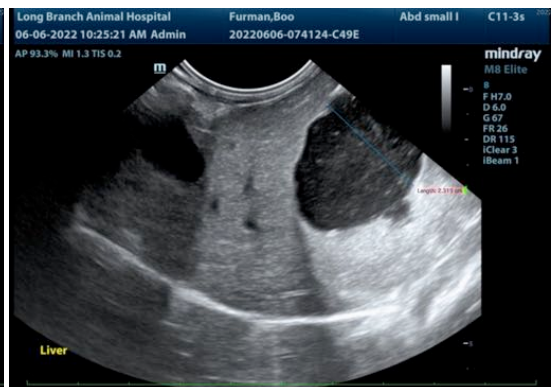
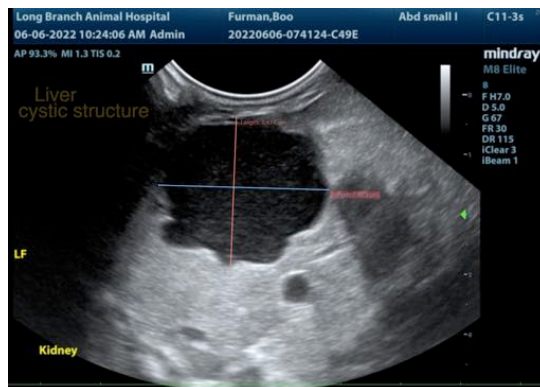
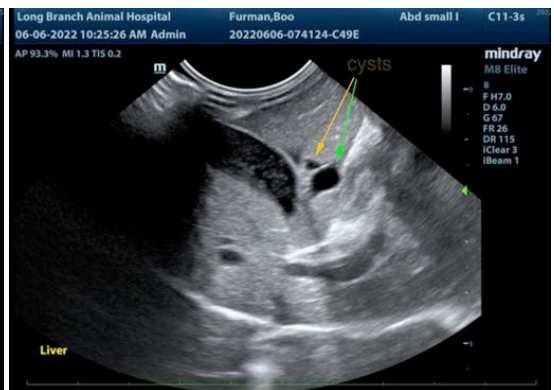
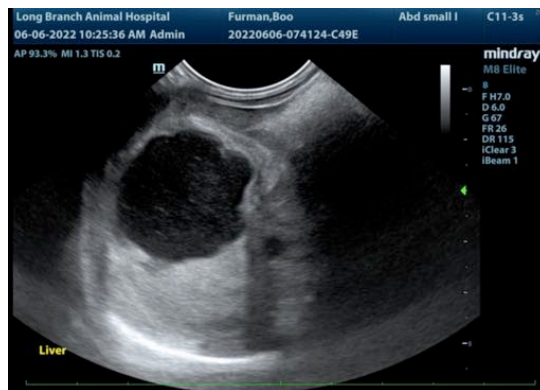
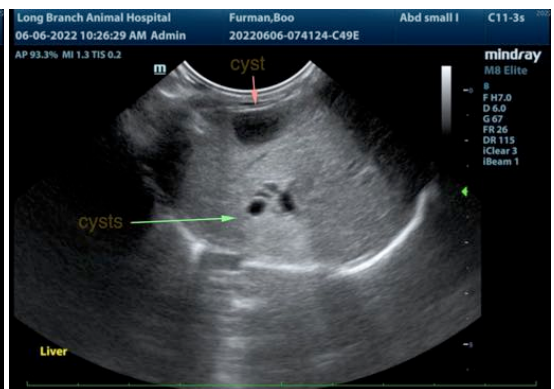
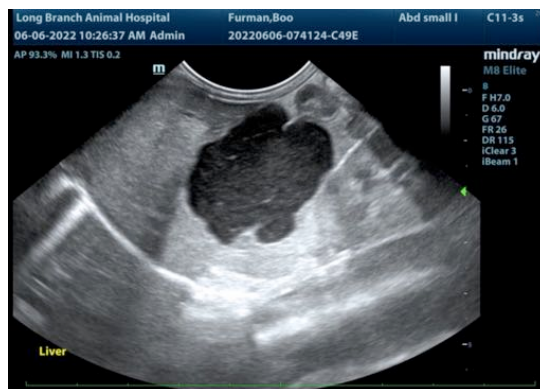
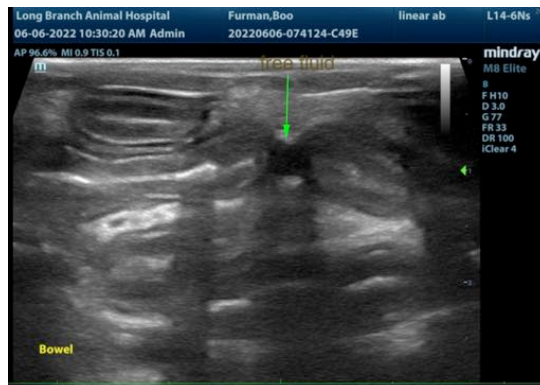
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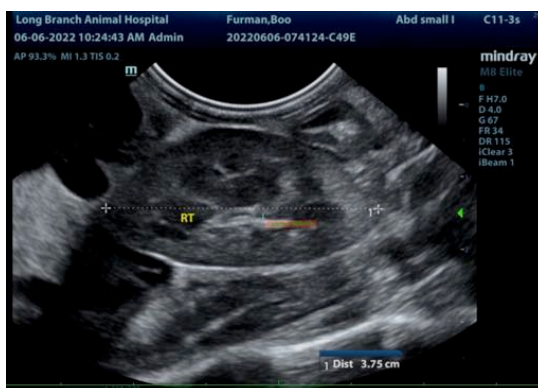
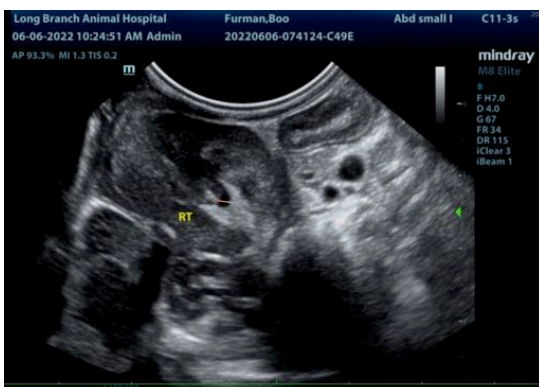
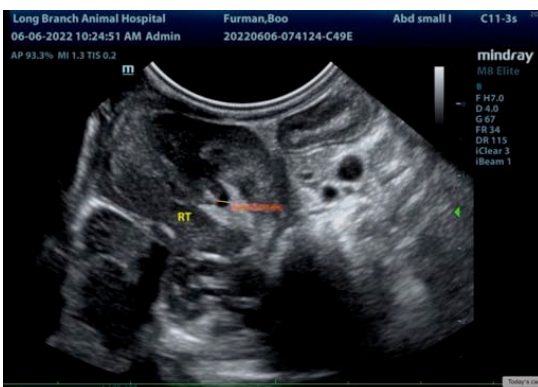
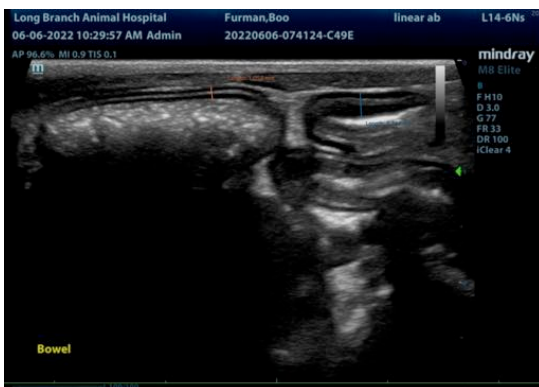
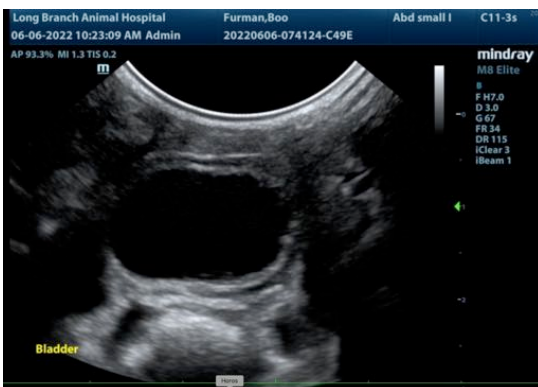
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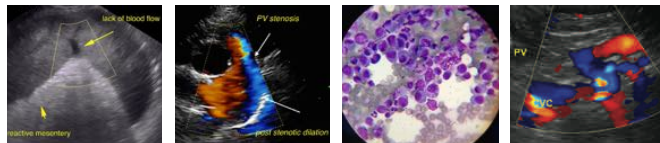
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

**SPECIES**

Feline

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

[Lisa.Carioto@sonopath.com](mailto:Lisa.Carioto@sonopath.com)

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Spayed Female

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