



PATIENT

Turbo Torres

SPECIES

Canine

BREED

Terrier X

SEX

Neutered Male

AGE

12 Years

WEIGHT

16 Pounds

INTERPRETED BY

Kathleen Sennello DVM,
MS, Diplomate ACVIM
(Small Animal Internal
Medicine)

**IMAGING
PERFORMED BY**

Dr. Adrienne Waffle

HOSPITAL NAME

Torch Lake VC

REFERRING VET

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DATE

9/14/22

PRESENTING CLINICAL SIGNS

Referral US concerned with liver values
Abnormal PE/Chem/CBC/UA Results: ALT- 256 ALP- 460 GGT- 18 TBIL- 0.6

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall is diffusely mildly thickened (0.48 cm), and the mucosa is mildly irregular. The trigone, ureteral papillae, and visible urethra (to a depth of 2cm) appear normal with no evidence of severe mucosal irregularities, masses or cystic calculi. Findings are most consistent with bacterial cystitis or lack of urine distension. Recommend urinalysis and culture.

The prostate is normal in size (1.0 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney is normal in size (4.7 cm) but irregular in shape. It is hyperechoic with decreased corticomedullary distinction. There are too numerous to count cortical cysts visible, measuring between 0.5-1.0 cm in size. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The left kidney is normal in size (5.6 cm) but irregular in shape. It is hyperechoic with decreased corticomedullary distinction. Numerous cortical cists are present, varying in size from 0.5-1.66 cm. The largest cyst visualized contains somewhat echogenic fluid. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.66 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is large and irregular. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.



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Gastrointestinal

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The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

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The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measures 0.41 cm. Jejunum wall measures 0.29 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

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Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

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ULTRASONOGRAPHIC FINDINGS

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- Irregular cystic kidneys with decreased corticomedullary distinction – The lesions likely represent benign cysts, although one lesion in the right kidney has some echogenic material. Parenchymal changes are consistent with chronic progressive renal disease.
- Mildly thickened apical portion of the urinary bladder – The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient.
- Large, irregular, heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver appears large, irregular, and heterogeneous. No focal lesions are visualized, and the biliary tract appears relatively normal. These findings are suggestive of a primary hepatopathy. Consider the following:

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- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc...
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history
- If not already done, consider pre and post prandial bile acids to evaluate liver function

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- If the ALP is significantly elevated relative to the ALT and symptoms consistent with Cushing's are present, consider adrenal function testing (ACTH stim)

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- Consider Fine needle aspirate if round cell neoplasia is on your differential list (25 g needle, normal coags)

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Both kidneys are very irregular in appearance in that they have numerous cortical cysts and are somewhat irregular in shape. These cystic lesions likely represent a benign process but can be associated with chronic renal disease. Consider a blood pressure evaluation, urinalysis and culture. One of the larger echogenic cysts in the right kidney contains echogenic fluid. If there is any evidence of infection, then consider percutaneous drainage of this lesion.

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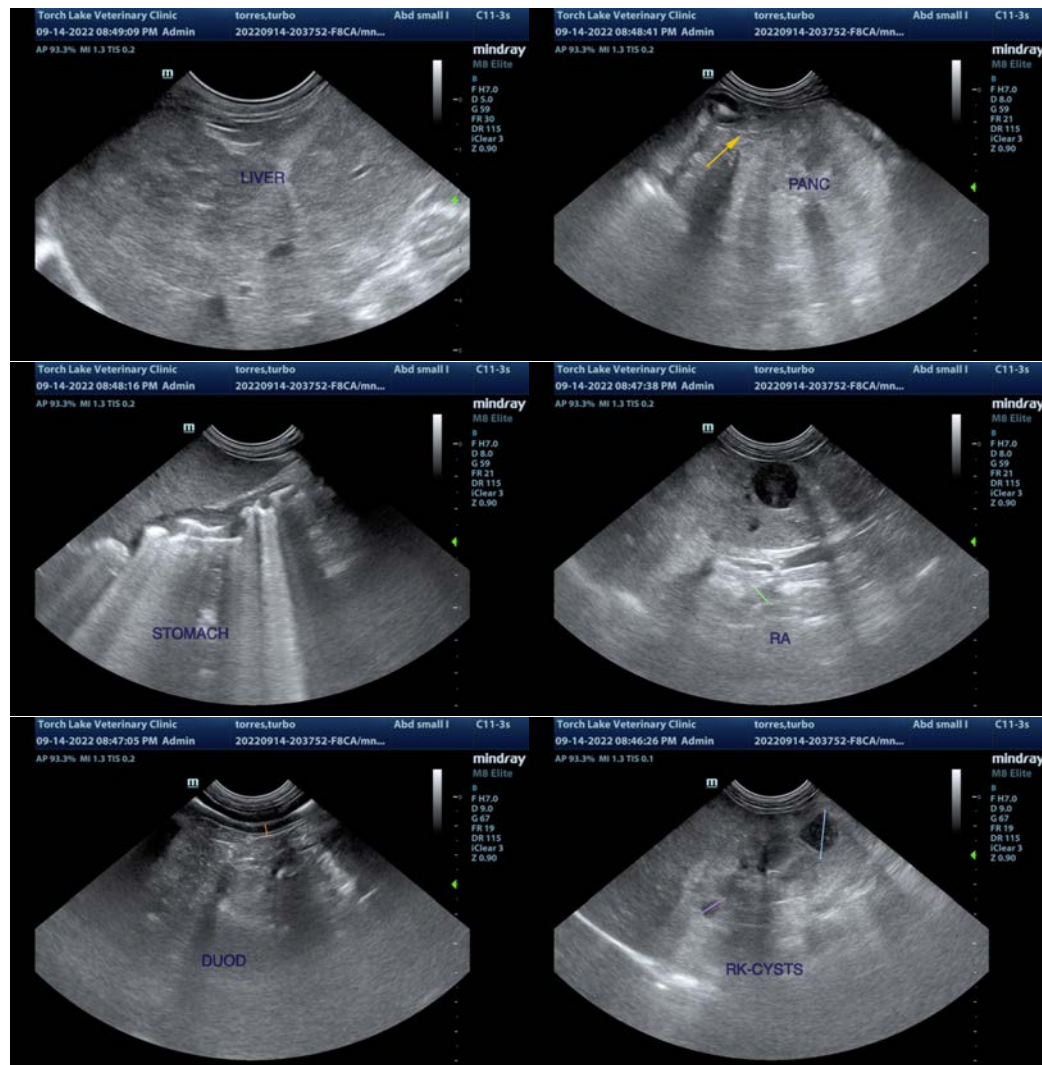
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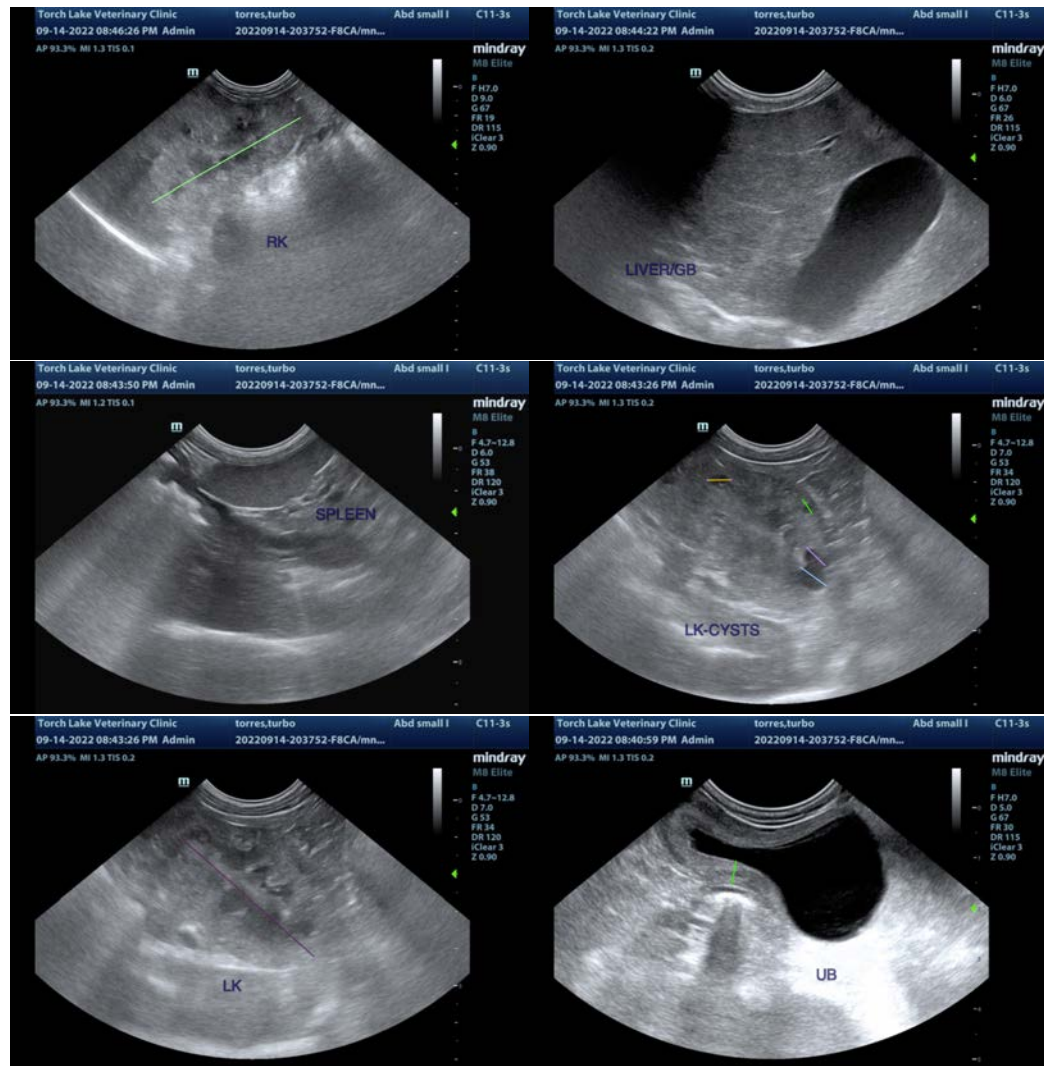
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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