

PATIENT PRESENTING CLINICAL SIGNS

Benji Laekeman

Scan to rule out neoplasia. Not doing well. Concerns about kidneys and liver. No meds.

SPECIES

Canine

Abnormal PE/Chem/CBC/UA Results: Creatinine elevated 352(44-159)Urea 27.5(2.5-9.6)Phos 2.79(0.8-2.2)ALT 822(10-125)ALKP1748(23-212)RBCs, HCT, HGB are low.

BREED

West Highland White
Terrier

SEX

Neutered Male

AGE

15 Years

WEIGHT

17.8 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

St. Catharine's AH

REFERRING VET

Dr. Boctor

INVOICE

45443

DATE

2/23/23

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with mild primarily suspended echogenic debris present. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or calculi, but there is a foley catheter in place with the bulb situated in the trigone. Echogenic debris of this type can be associated with small crystals, cellular debris and proteinaceous debris.

The visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (5.15 cm). Parenchyma is mottled and hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. Diffuse small cortical cysts are noted, pinpoint mineralizations, and pyelectasia at 0.40 cm. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.48 cm). Parenchyma is mottled and hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. Diffuse small cortical cysts are noted, pinpoint mineralizations, and pyelectasia at 0.34 cm. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is difficult to clearly see. There is a mass effect caudal to the left renal artery, which could be displaced left adrenal, but more likely the adrenal in that region is small and somewhat difficult to visualize, with a suspicious structure visualized measuring 0.67 cm (see description of regional mass effect under "other").

The region of the right adrenal gland is difficult to interpret. There is a lymphadenopathy in this region, making it difficult to discern what is adrenal and what is lymph node. I suspect there is a hypoechoic portal lymph node visualized measuring 1.3 cm in diameter. There is a structure in the region of the right adrenal measuring 0.87 cm with a hyperechoic foci, and a more caudal structure consistent with a mesenteric lymph node measuring 0.96 cm in diameter.

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, severely heterogeneous, and irregular in shape. The visible portions of the vasculature and biliary tract appear normal. There are some areas of the liver that appear relatively normal, but there are large areas that are irregular and severely heterogeneous with ill-defined mass effects. This appears to involve the left side of the liver more than the right. There is a hyperechoic cystic mass lesion



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measuring 4.95 cm x 3.73 cm, too numerous to count hypoechoic nodules/cystic lesions ranging in size from 0.75-2.0 cm, and a partially cystic mixed echogenic mass effect measuring 3.98 cm x 3.73 cm.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

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.

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 0.51 cm. Jejunum wall measures 0.40 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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.

Pancreas

The area of 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.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is a large, hypoechoic mass effect/lymph node visualized measuring 1.73 cm x 1.86 cm. The omentum is diffusely hyperechoic.

There is a large, hypoechoic mass effect measuring 2.29 cm x 2.65 cm that appears to be located caudal to the left renal artery. I cannot rule out the possibility that this is an adrenal mass lesion, but the location seems more appropriate for an effaced/abnormal sublumbar lymph node.

PRIMARY FINDINGS

- Echogenic debris in the urinary bladder with an intact foley catheter placed – The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus.
- Decreased corticomedullary distinction in both kidneys with numerous cortical cysts, pinpoint mineralizations, and bilateral pyelectasia – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the kidney(s) could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Large, irregular, heterogeneous liver with too numerous to count mixed echogenic nodules and mass lesions – The majority of this pathology appears towards the left side of the liver. The appearance is concerning for a neoplastic process.
- Significant lymphadenopathy with numerous hypoechoic rounded lymph nodes/mass lesions visualized near the portal region, the region of the right adrenal, the mid abdomen, and there is a large mass effect caudal to the left kidney - These are suspicious for effaced lymph nodes, metastatic lesions, and they are difficult to discern from the adrenals due to location. The moderate mesenteric lymphadenopathy could be concerning for a neoplastic process, although



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you can see significant lymphadenopathy in some cases of autoimmune/inflammatory disease, infectious disease (tick born disease-such as bartonella, fungal infections, FIP (cats)) etc. A fine needle aspirate with cytology is recommended for further evaluation.

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SECONDARY FINDINGS

- Moderate gallbladder debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.

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Terrier

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

SEX

Neutered Male

This is a very busy abdomen with an abnormal heterogeneous liver with too numerous to count lesions that appear to coalesce, possibly creating one large mass lesion with numerous cystic structures and nodules within. Consider a fine needle aspirate of this mass lesion. If surgical intervention would be considered, recommend a contrast CT scan to see if there is a significant amount of unaffected liver tissue, and if surgery would be possible.

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Additionally, there are large hypoechoic lymph nodes/masses throughout the mesentery. I suspect these represent metastatic lymph nodes. Their location overlaps the region of the left and right adrenals, making differentiation challenging. I cannot rule out the possibility of an adrenal mass. It is likely that a contrast CT scan would be necessary to differentiate these structures. Provided a blood pressure is normal, you could consider a fine needle aspirate of an enlarged lymph node.

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The changes observed in the kidneys are relatively severe and consistent with the elevation in renal values reported. Recommend a blood pressure evaluation, urinalysis and culture and symptomatic treatment for renal failure. Additionally, the changes in the urinary bladder could be consistent with cystitis.

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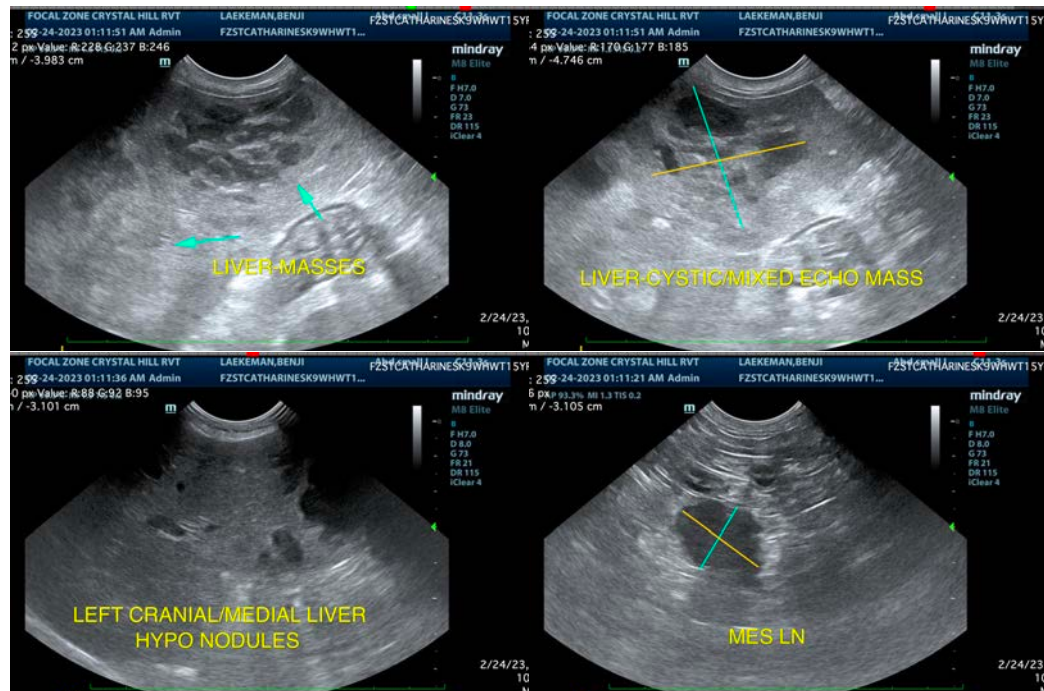
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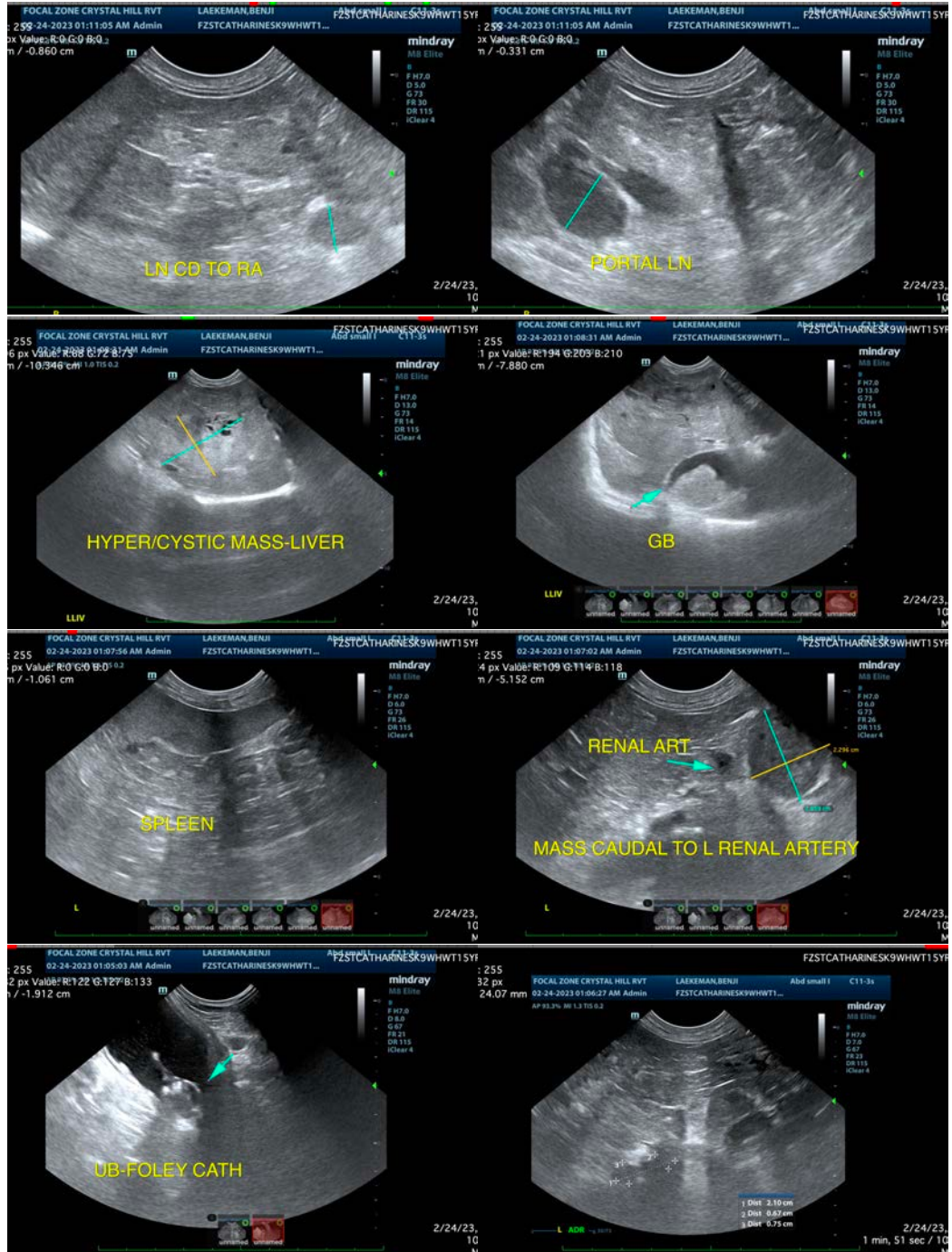
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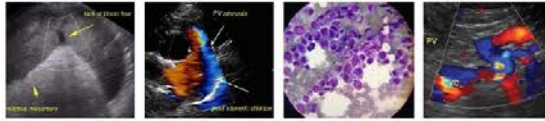
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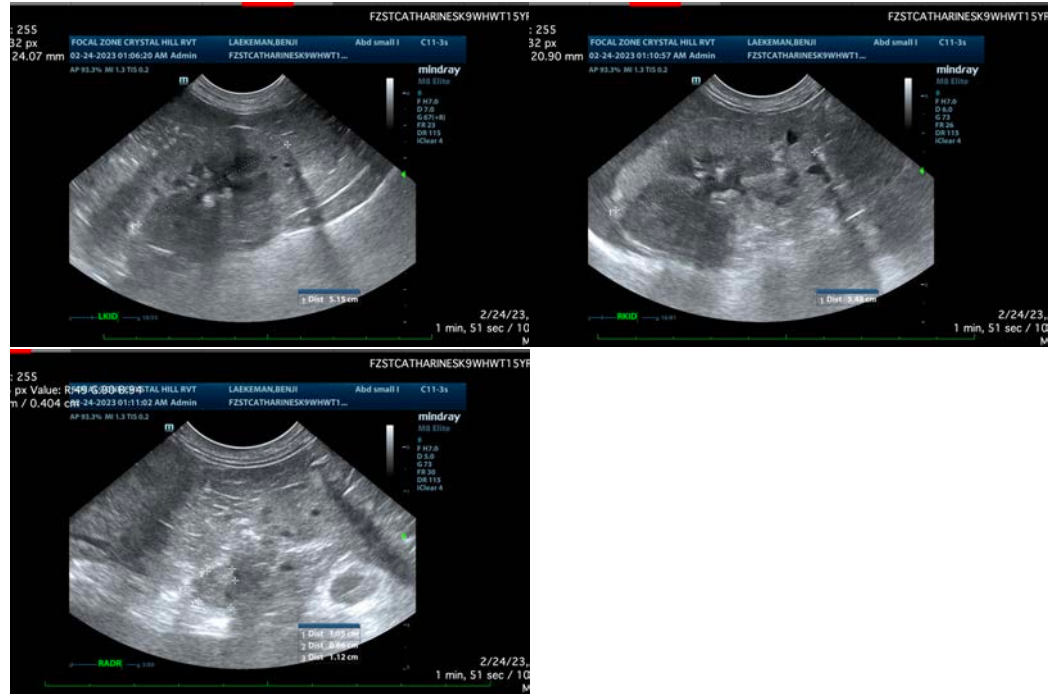
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

kathleen.sennello@sonopath.com