



PATIENT

Annie Kelley

SPECIES

Canine

BREED

Scottish Terrier X

SEX

Spayed Female

AGE

13 Years

WEIGHT

7.7 kg

INTERPRETED BY

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

**IMAGING
PERFORMED BY**

Dr. Callihan/Pacific
Crest Mobile VS

HOSPITAL NAME

Pacific Crest Mobile

REFERRING VET

Dr. VanWinkle/Village
Vet Hospital

INVOICE

40944

DATE

10/4/22

PRESENTING CLINICAL SIGNS

Ultrasound requested due to pt's progressively picky appetite, recently eating mostly only rotisserie chicken, today, bread. Vomited yesterday History of hypertension (last bp noted was April, 180mmHg systolic; had been 220 in March), normally takes benazepril; only has one kidney

Abnormal PE/Chem/CBC/UA Results: History isosthenuria, proteinuria with mild elev Urine Protein Cr. Unsure if urine culture has been done (Chem 17 w/ Lytes, CBC, and SNAP cPL): -BUN 60, Cr 1.9 -Ph 8.1 -ALT 356 -ALKP 1994 -Lipase2377 -CBC normal other than lymphopenia

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, or masses. There is a small area of hyperechoic shadowing material in the dependent portion of the urinary bladder measuring 0.56 cm in diameter. This likely represents calculi or a small pile of sandy debris. Correlate with abdominal radiographs. Recommend urinalysis and culture.

The left kidney has a normal shape and size (5.35 cm) with numerous small cortical cysts and mild pyelectasia at 0.24 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is surgically absent.

Adrenal Glands

The left adrenal gland is large measuring 0.86 cm at the cranial pole, 1.36 cm at the caudal pole, and 3.2 cm in length. It is observed in its normal position cranial to the left renal artery. It is abnormal in appearance in that the caudal pole is enlarged, and there appears to be reduced blood flow in the phrenicoabdominal vein, indicating possible vascular invasion.

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. 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 in size, and normal in echogenicity with smooth peripheral margins. 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 gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris. There is no evidence of bile duct dilation.



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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 0.43 cm. Jejunum wall measures 0.32 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. There is a hypoechoic rounded structure visualized on the right side of the abdomen, caudal to the stomach, most consistent with a possible lymph node, measuring 0.85 cm in diameter. The omentum is of normal echogenicity.

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ULTRASONOGRAPHIC FINDINGS

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- Shadowing mineralized material in the urinary bladder – most consistent with a small stone(s) or sandy debris. Correlate with abdominal radiographs, urinalysis and culture.
- Large nodule on the caudal pole of the left adrenal gland with possible vascular invasion – Left adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Decreased corticomedullary distinction of the left kidney with mild pyelectasia – Mild loss of corticomedullary distinction in the left kidney could be consistent with chronic degenerative disease or interstitial nephrosis.
- Large, 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.
- Large gallbladder debris – A large amount of debris is evident in the gall bladder with no evidence of a mucocele or associated inflammation at this time. This could represent an early mucocele or cholestasis, with minimal evidence of associated inflammation at this time. Continued monitoring of lab work and ultrasound are warranted for progression of this lesion. Ursodiol therapy could be considered.

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- Surgically absent right kidney
- Hypoechoic structure in the right cranial abdomen – Appearance is most consistent with a lymph node, consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic



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infiltration is considered less likely. Continue monitoring is warranted.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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The caudal pole of the left adrenal gland is significantly enlarged. This could be consistent with a benign or neoplastic lesion and could be actively secreting hormones or be non-active. Additionally, there is concern for possible phrenicoabdominal vein invasion, as there is limited blood flow on power doppler evaluation.

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- If signs of cushings are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)

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- If adrenal dependent cushings is suspected and supported by adrenal function testing consider medical therapy with lysodren or trilostane and/or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)-This can be a challenging surgery with significant risk for complication

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- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- Due to the invasive nature of these masses a CT scan is recommended to evaluate for metastasis and vascular invasion.

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- If no symptoms of cushings are present, consider either referral for surgery or if surgery is not an option consultation with a veterinary oncologist regarding chemotherapeutic options and continued monitoring with ultrasound (in 4-6 weeks) can be considered.

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- Some aggressive adrenal tumors can grow quickly and there is risk for acute hemorrhage from vascular invasion.

The liver is heterogeneous. This could be consistent with a steroid hepatopathy if the adrenal mass is secreting cortisol or some similar hormone. Additionally, this could be consistent with a vacuolar hepatopathy, which is very common in Scotties (Scottie hepatopathy). Recommend a liver function test, as Scottie hepatopathy can progress to liver failure in rare cases. Additionally, the gallbladder has a large to moderate amount of adherent debris to the wall. Consider Ursodiol therapy and continued monitoring of the gallbladder.

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There are changes associated with the left kidney that are most consistent with chronic progressive renal disease/age related renal disease. Additionally, there are possible stones in the urinary bladder. Recommend abdominal radiographs to better determine the number and size of these, and if they can be passed. Recommend urinalysis and culture and continued monitoring of blood pressure, with medical therapy for hypertension as described in the history.

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There is a small hypochoic rounded structure visualized in the right cranial abdomen. No other structures are visualized associated with it. This could be a large lymph node. Recommend continued monitoring.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

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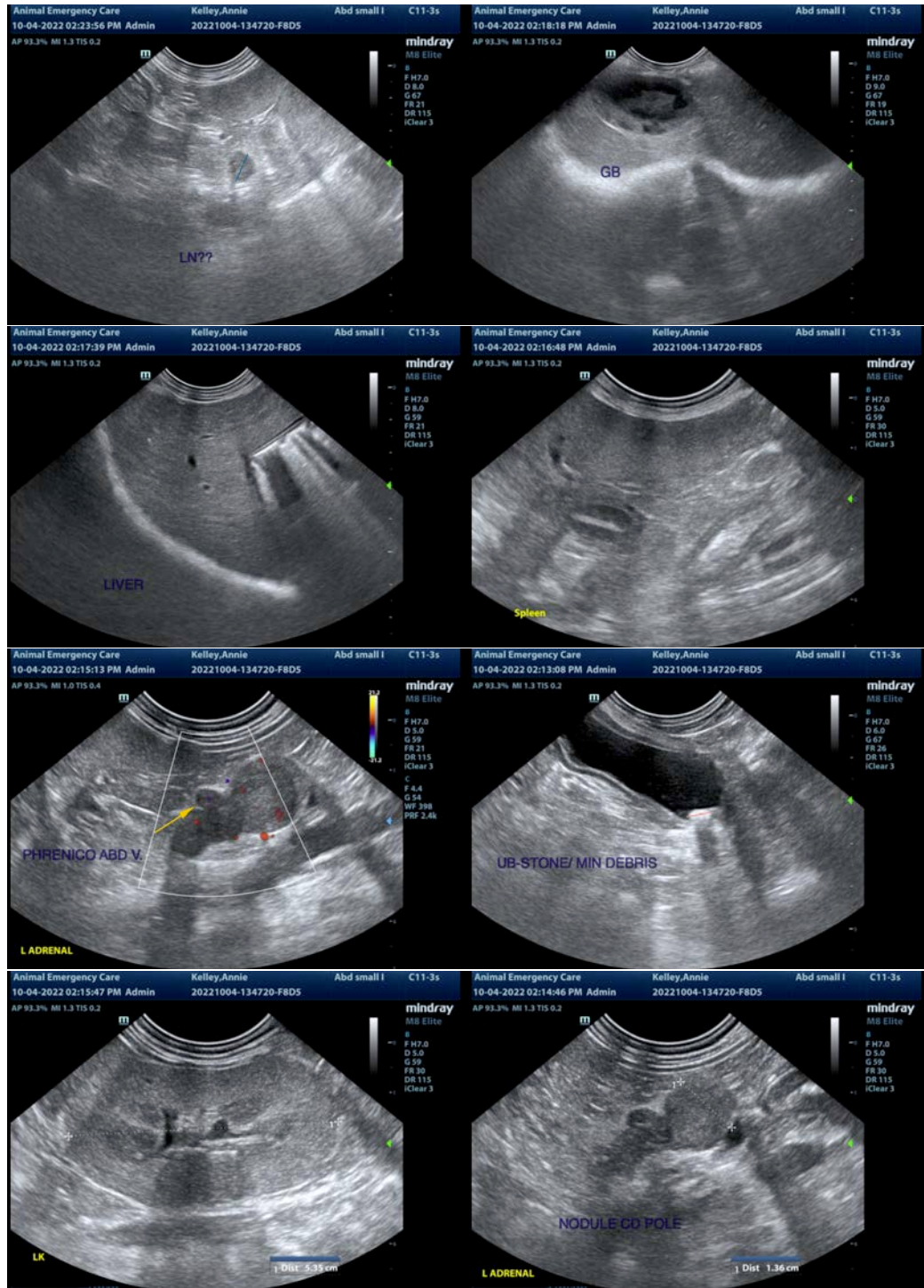
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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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kathleen.sennello@sonopath.com

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