

**DATE PRESENTING CLINICAL SIGNS**

4/11/23 Chronic intermittent diarrhea since February. Hx of hypothyroid disease.

PATIENT

Current Medications: 4/7/23- Metronidazole 500mg BID x10 days. Provable 5mL TID x2-3 days, 1 cap SID x 10 days.

Sammie Belitz

Lab Results: 2/12/23 Amylase 1595 (337-1469), Lipase 1236 (0-250). 4/6/23 fecal- NPS.

Date of Previous IntraPet Ultrasound: No previous.

SPECIES

Sedation: Not required to complete full diagnostic ultrasound.

Canine

Stat Report: Not requested.

Imaging Performed By: Andi Parkinson, BS, RDMS.

BREED**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Golden Retriever

Urinary System**SEX**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall largely appears normal with a smooth mucosal surface and no evidence of thickening. In the region of the ureteral papillae, there is a small irregularity to the urinary bladder wall measuring approximately 0.64 cm x 0.68 cm. This could represent a small polypoid lesion, a prominent/irregular ureteral papilla, or an early mass lesion. No evidence of calculi are visualized, and the proximal urethra appears normal.

Neutered Male

AGE

The prostate is normal in size (1.42 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.

1/1/10

WEIGHT

The left kidney has a normal shape and size (6.58 cm) with a small cystic region at 0.34 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 pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

76.3 Pounds

INTERPRETED BY

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(Small Animal Internal
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The right kidney has a normal shape and size (6.41 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 pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

HOSPITAL NAME

Timonium AH

Adrenal Glands

The left adrenal gland is normal in size measuring 1.02 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

REFERRING VET

Dr. Brand

The right adrenal gland is normal in size measuring 0.85 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.

INVOICE

46556

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. There are two small hypoechoic nodules visualized within the spleen. One measures at 0.63 cm. The other is towards the head of the spleen, measuring 0.46 cm.

Liver

The liver is large in size and irregular. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a large, irregular, ill-defined, hyperechoic cystic mass lesion visualized on the left side of the liver measuring 7.84 cm x 5.89 cm.

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.

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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 pancreas is prominent and mottled compared to the surrounding isoechoic 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 prominent cystic lymph node visualized in the sublumbar region caudal to the left adrenal gland measuring 2.83 cm x 1.26 cm. A prominent mesenteric lymph node is visualized at 0.74 cm in diameter. The omentum is generally of normal echogenicity.

Other

The right auricle and pericardium were visualized and were unremarkable. No obvious pathology is visualized. If cardiac function evaluation is desired a full echocardiogram is warranted.

PRIMARY FINDINGS

- Small irregularity to the urinary bladder wall in the trigone region – This could represent a polypoid lesion, an irregular/pronounced ureteral papilla, or an early mass lesion. Recommend urinalysis and culture.
- Two small hypoechoic nodules visualized in the spleen – Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Prominent, mottled pancreas – The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

- Large, heterogeneous liver with a hyperechoic, irregular cystic mass lesion – The appearance of this lesion favors a benign process, but a more aggressive lesion cannot be ruled out (cystadenoma, adenoma, carcinoma, etc.).

SECONDARY FINDINGS

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- Prominent cystic sublumbar lymph node caudal to the left kidney – I suspect this is a benign finding, but continued monitoring is warranted.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a large, ill-defined, hyperechoic cystic mass lesion visualized in the liver. The appearance of this lesion favors a benign process, although a more aggressive lesion cannot be ruled out. Consider a fine needle aspirate, but cytologic evaluation may be challenging due to the cystic nature of this lesion. If cytologic information cannot be obtained, then consider a contrast CT scan to evaluate for possible removal, as further evaluation is unlikely to be possible without histopathology.

There are two very small hypoechoic lesions visualized in the spleen. Options moving forward would include a fine needle aspirate or continued monitoring with ultrasound.

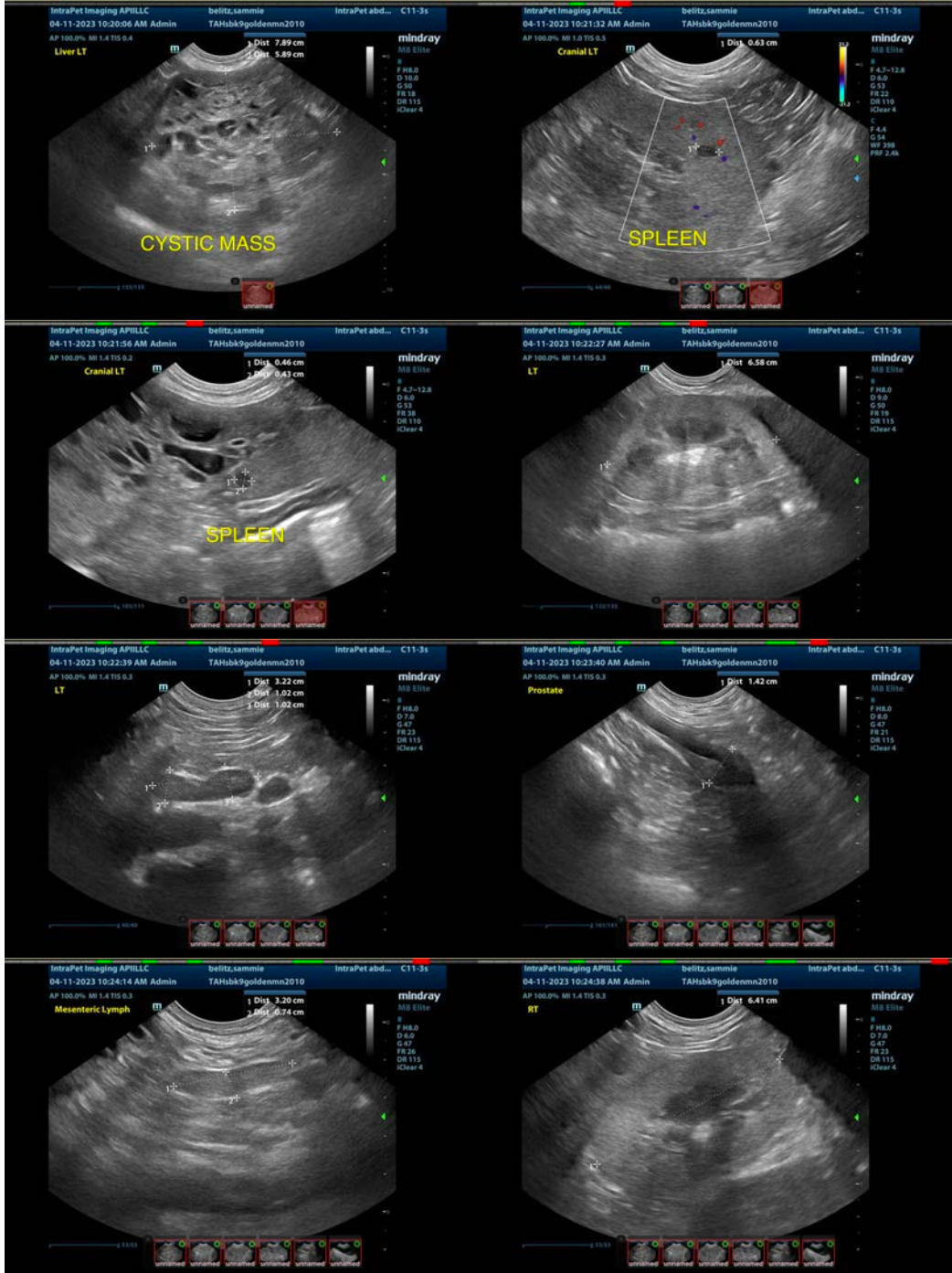
There is a small relatively smooth appearing irregularity visualized near the trigone region of the urinary bladder. This could represent a small polypoid mass, an irregular/prominent ureteral papilla, or an early mass lesion (TCC). Recommend urinalysis and culture and reevaluation of the region with ultrasound after treatment. If no infection is present, then consider a urine BRAF test. If the urine BRAF test is positive, then this lesion would be more concerning, and a biopsy via cystoscopy or surgery could be considered. A negative BRAF test is non-diagnostic, and further evaluation with cystoscopy or continued monitoring with ultrasound could be considered.

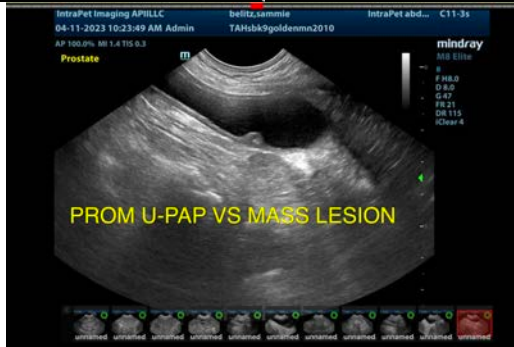
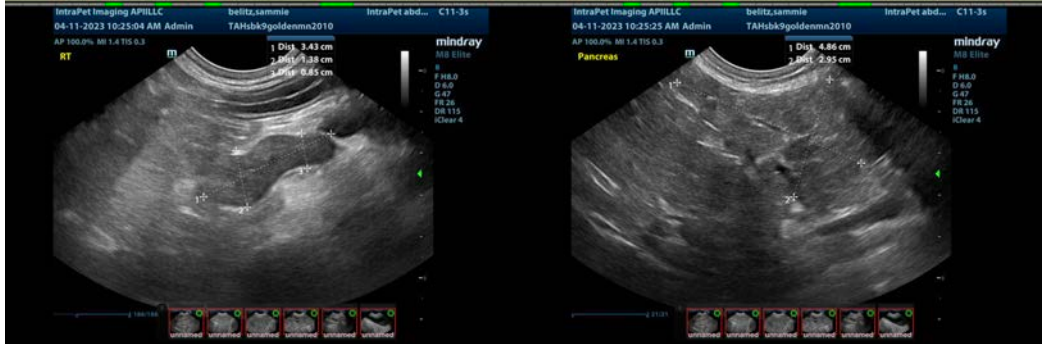
The significance of the cystic lymph node is uncertain. I suspect this is relatively benign, but continued monitoring with ultrasound is warranted.

An obvious association with the reported diarrhea and these lesions is not clear. The pancreas is prominent and mottled, so pancreatic disease is possible. Consider treatment for pancreatitis. If elevated pancreatic values are persistent, you could consider a fine needle aspirate of the pancreas. Additionally, this diarrhea could be associated with the liver mass lesion or with concurrent underlying GI disease that is unrelated. Consider the following for the diarrhea:

- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks)
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc.. to further evaluate for pancreatic/small intestinal disease.
- Recommend chronic probiotic therapy.

A contrast CT scan of the abdomen could be considered to further evaluate the liver mass, the splenic lesions, and possibly the urinary bladder.





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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