

**DATE PRESENTING CLINICAL SIGNS**

2/14/23 1/16/23: PU/PD, lethargic, eating less, begging more.

PATIENT

Current Medications: None.

V Magil

Lab Results: 1/16/23: ALT 133, ALP 340, Chol 330, USPG 1.022, T4 1.3.

1/30/23: ACTH stim pre 3.1, post 19.6.

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**

Pit Bull X

Urinary System**SEX**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall is diffusely mildly thickened (0.43 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.

Neutered Male

Findings are most consistent with bacterial cystitis or lack of urine distension. Recommend urinalysis and culture.

AGE

11/18/09

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.

WEIGHT

87.4 Pounds

The left kidney has a normal shape and size (6.16 cm) with a cystic structure in the cortex measuring 1.39 cm x 1.02 cm. Overall echogenicity is normal with adequate 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.

INTERPRETED BY

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

The right kidney has a normal shape and size (7.19 cm). Overall echogenicity is normal with adequate 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/borderline large in size measuring 0.93 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/borderline large in size measuring 1.0 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

45118

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 subjectively normal in size, and 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 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. Jejunum wall measures 0.41 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 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, 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.

ULTRASONOGRAPHIC FINDINGS

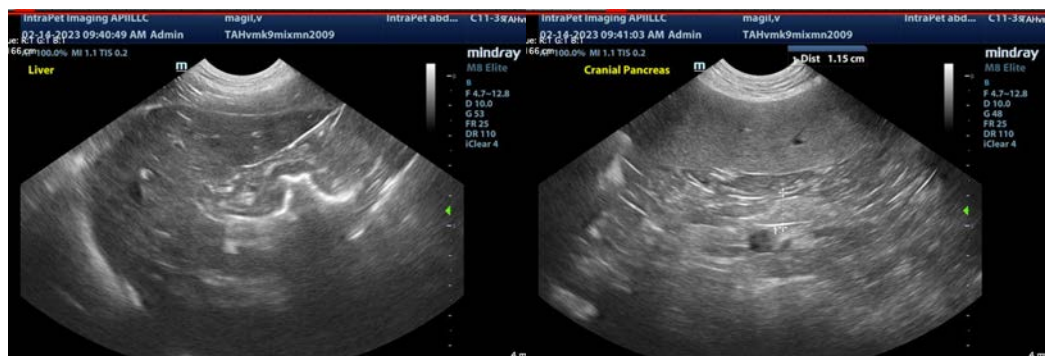
- Subjectively mildly thickened urinary bladder wall – The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient.
- Borderline bilateral adrenomegaly – The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended.
- Cystic structure visualized in the left kidney – Findings are most consistent with a benign renal cyst.
- 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.

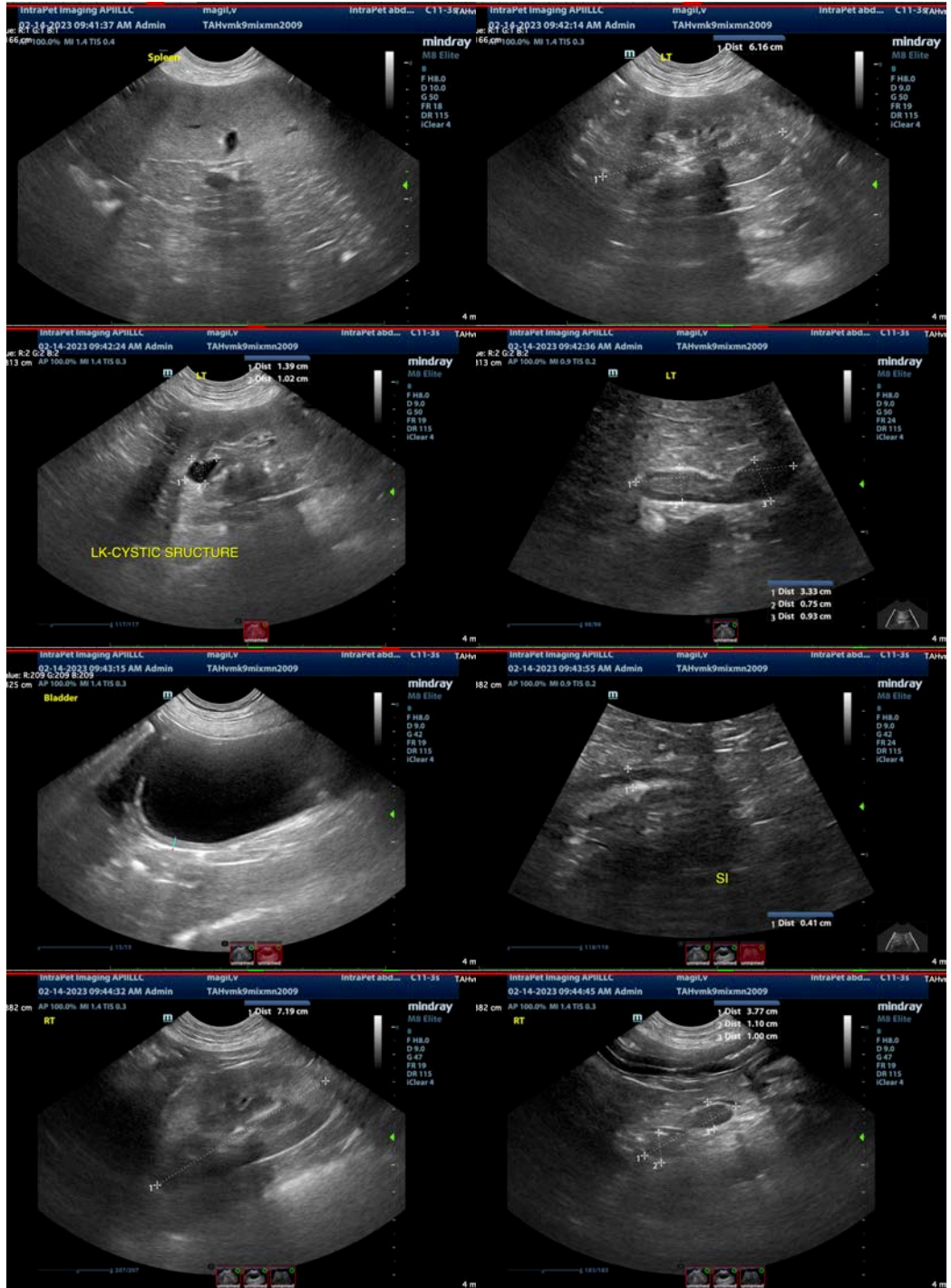
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No obvious lesions are visualized to explain the symptoms reported. The adrenals are both borderline enlarged, but this is a large dog and could be within normal limits for this individual. It is somewhat atypical to have a decrease in appetite with Cushing's, although this can be seen with a pituitary macroadenoma. Consider further workup for the PU/PD, including urinalysis, culture, liver function test, etc. Below is a list of differentials for PU/PD that I like to go through when trying to work up this issue.

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

1. Diabetes Mellitus
2. Chronic Renal Disease/Renal Failure (can present pre-azotemic, especially in dogs, but expect the BUN & creatinine not to be at the low end of the reference range)
3. Hypercalcemia
4. Urinary tract infection
5. Iatrogenic Disease due to medications (diuretics, phenobarbital, KBr; diets either high in salt [such as S/D] or very low in protein (such as U/D))
6. Hyperthyroidism
7. Hypokalemia
8. Liver Disease (hepatic encephalopathy may be a mixed primary PU and PD)
9. Pyelonephritis
10. Polycythemia
11. Renal Tubular Diseases (glycosuria or Fanconi & Fanconi-like syndromes or RTA)
12. Hyperadrenocorticism (may be a mixed primary PU and PD)
13. Hypoadrenocorticism (either Addison's or hypocortisolism)
14. Paraneoplastic Syndromes (particularly splenic hemangiosarcoma?)
15. Pericardial Effusion
16. Pyometra (including stump pyometra in spayed dogs)
17. Chronic Partial Urinary Obstruction or Post-Obstructive Diuresis
18. Pheochromocytoma
19. Psychogenic Polydipsia (as in a true behavior disorder with a compulsive element)
20. Primary Non-Medical Polydipsia (aka "I drink a lot because I like it or I engage in activities that promote it, but that doesn't mean I'm sick")
21. Primary Nephrogenic Diabetes Insipidus (Congenital Nephrogenic Diabetes Insipidus, other diseases that cause primary PU other than Congenital Diabetes Insipidus would be considered Acquired Nephrogenic Diabetes Insipidus)
22. Atypical Cushing's and SARDS
23. Central Diabetes Insipidus





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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