



DATE PRESENTING CLINICAL SIGNS

5/19/26

Patient History: PU for 2 weeks. Currently measuring water intake to assess if truly PD but owners feel that patient is PD. Per owner, seems to be significantly better when owners are home. BW WNL. UPC 0.22. USG after 8 hr water fast 1.010. UA WNL

PATIENT

Major Roth

Current Medications: Cosequin.

Labwork Results: Labwork attached, reported as: USG 1.010 is max concentration

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested. / Heart screen declined.

Imaging Performed by: Stephanie Warga RDCS, RVT.

SPECIES

Canine

BREED

Mixed

SEX

Neutered Male

AGE

12/7/15

WEIGHT

95 lbs

INTERPRETED BY

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MS, Diplomate ACVIM
(Small Animal Internal
Medicine)

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, masses or cystic calculi.

The prostate is normal in size (1.27 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 has a normal shape and size (6.79 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.

The right kidney has a normal shape and size (6.82 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

Chadwell Animal
Hospital

Adrenal Glands

The left adrenal gland is normal in size measuring 0.55 cm at the cranial pole and 0.53 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. Weeks

The right adrenal gland is normal in size measuring 0.88 cm at the cranial pole and 0.64 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

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Spleen

The spleen is subjectively normal in size. The spleen echotexture is mildly mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There are occasional ill-defined hypoechoic nodules visualized with the lower frequency probe. Examples include a nodule toward the cranial aspect of the spleen measuring 1.28 cm x 1.36 cm, and poorly defined nodules measure 1.06 cm and 0.90 cm.

Liver

The liver is normal/borderline small in size. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gallbladder is challenging to clearly visualize but has a normal appearance. The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and likely incidental at this time. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of 0.41 cm 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 0.32 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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, 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.

Other

A brief evaluation of the heart/right auricle was declined.

ULTRASONOGRAPHIC FINDINGS

- Mildly mottled spleen with ill-defined hypoechoic nodules – There are several, non-cavitated, hypoechoic splenic nodules visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Normal/borderline small liver – This could represent anatomic variation in a very large deep chested dog.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

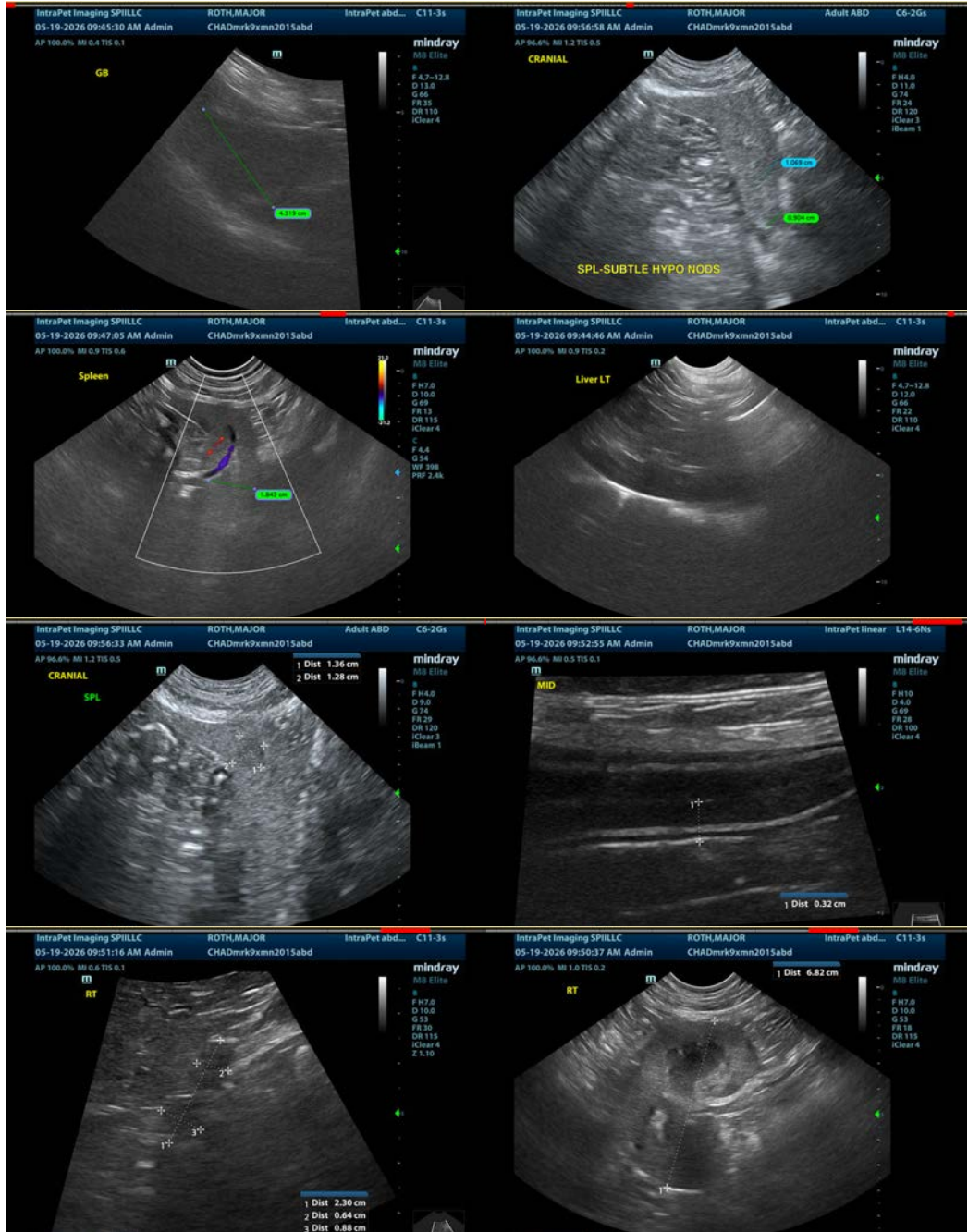
The changes observed on today's scan are relatively mild/subtle. The spleen appears mildly mottled with some ill-defined hypoechoic nodules. This is most apparent using the lower frequency probe. These could represent benign or early neoplastic lesions. Options moving forward would include a fine needle aspirate or

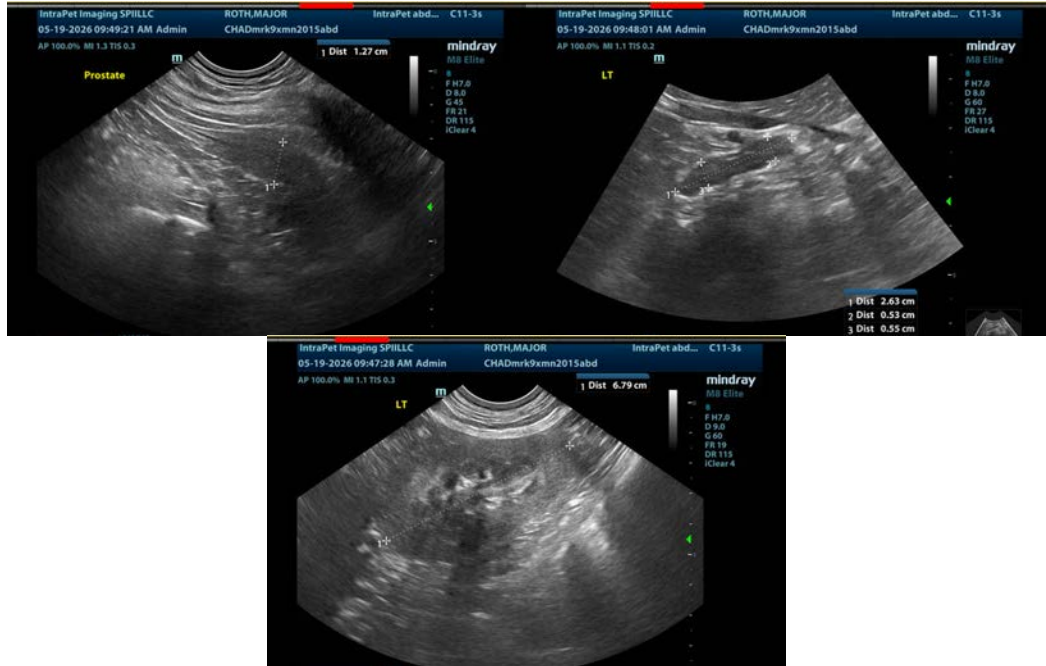
continued monitoring with ultrasound.

Subjectively, the liver appears borderline small. I suspect this represents anatomic variation, but given the PU/PD reported, pre- and post-prandial bile acids could be considered.

An obvious lesion responsible for the reported increase in thirst and urination was not visualized. Some issues such as early renal disease, Cushing's disease, behavioral, neurologic, dietary, electrolyte disturbances etc.. are not able to be diagnosed with ultrasound alone. These can be challenging cases. The top 10 differentials can be ruled in/out with routine bloodwork, urinalysis and culture, several more can be evaluated with a good history and imaging. Unfortunately, as you work your way down the list the differentials become harder to definitively diagnose. This is the differential list I start with.

- Diabetes Mellitus
- 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)
- Hypercalcemia
- Urinary tract infection
- 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))
- Hyperthyroidism
- Hypokalemia
- Liver Disease (hepatic encephalopathy may be a mixed primary PU and PD)
- Pyelonephritis
- Polycythemia
- Renal Tubular Diseases (glycosuria or Fanconi & Fanconi-like syndromes or RTA)
- Hyperadrenocorticism (may be a mixed primary PU and PD)
- Hypoadrenocorticism (either Addison's or hypocortisolism)
- Paraneoplastic Syndromes (particularly splenic hemangiosarcoma?)
- Pericardial Effusion
- Pyometra (including stump pyometra in spayed dogs)
- Chronic Partial Urinary Obstruction or Post-Obstructive Diuresis
- Pheochromocytoma
- Psychogenic Polydipsia (as in a true behavior disorder with a compulsive element)
- 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")
- 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)
- Atypical Cushing's and SARDS
- 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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