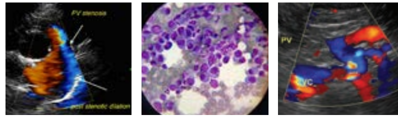


DATE
12/1/22

PATIENT
Roscoe Jishi

SPECIES
Canine

BREED
Pomeranian

SEX
Neutered Male

AGE
5/7/08

WEIGHT
6 Pounds

INTERPRETED BY
Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY
Rachel Brilhart RDMS

HOSPITAL NAME
Alexander AH

REFERRING VET
Dr. Alexander

INVOICE
43128

PRESENTING CLINICAL SIGNS

10/29/22 Pt seen for "yelping in pain", 9lbs 3oz and pain on palpation of spine with x-rays suspicious for narrowing at T-L and L-S area. BW sent out and pt started on pain meds. 11/1/22 BW- nRBC's (27/100) w/ Path review unclear why. 11/9/22 4dx NEG. 11/18/22 BW- perfectly normal except T4 <0.5. 11/30/22- weight loss, now 6lbs 3oz with owner reporting lethargy, salivating, trembling and decreased appetite.

Current Medications: Buprenorphine 0.3mg/mL 0.3mL BID, Entyce 0.4mL SID.
Lab Results: See attached
Radiographs: See attached.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

The right kidney is normal in size (3.45 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. A cortical cyst is noted, measuring approximately 0.5 cm. Non-obstructive areas of mineralization/nephroliths are noted.

The left kidney is normal in size (3.83 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted.

Adrenal Glands

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The right adrenal gland measures 1.53 cm long x 0.70 cm at the cranial pole and 0.70 cm at the caudal pole. The left adrenal gland measures 1.7 cm long x 0.66 cm at the cranial pole and 0.74 cm at the caudal pole.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

Gastrointestinal
The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas
The observed pancreas appears appropriately isoechoic to surrounding omental fat. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen
There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

Ringdowns are present at the level of the diaphragm.

PRIMARY FINDINGS

- **Bilateral adrenomegaly –** consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.

- **Heterogenous Liver –** These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.

- **Gallbladder debris -** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

- **Ringdowns –** suggestive of concurrent pulmonary pathology.

SECONDARY FINDINGS

- Bilateral non-obstructive nephrolithiasis and a cortical cyst in the right

- **Pancreatic age-related remodeling –** Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.

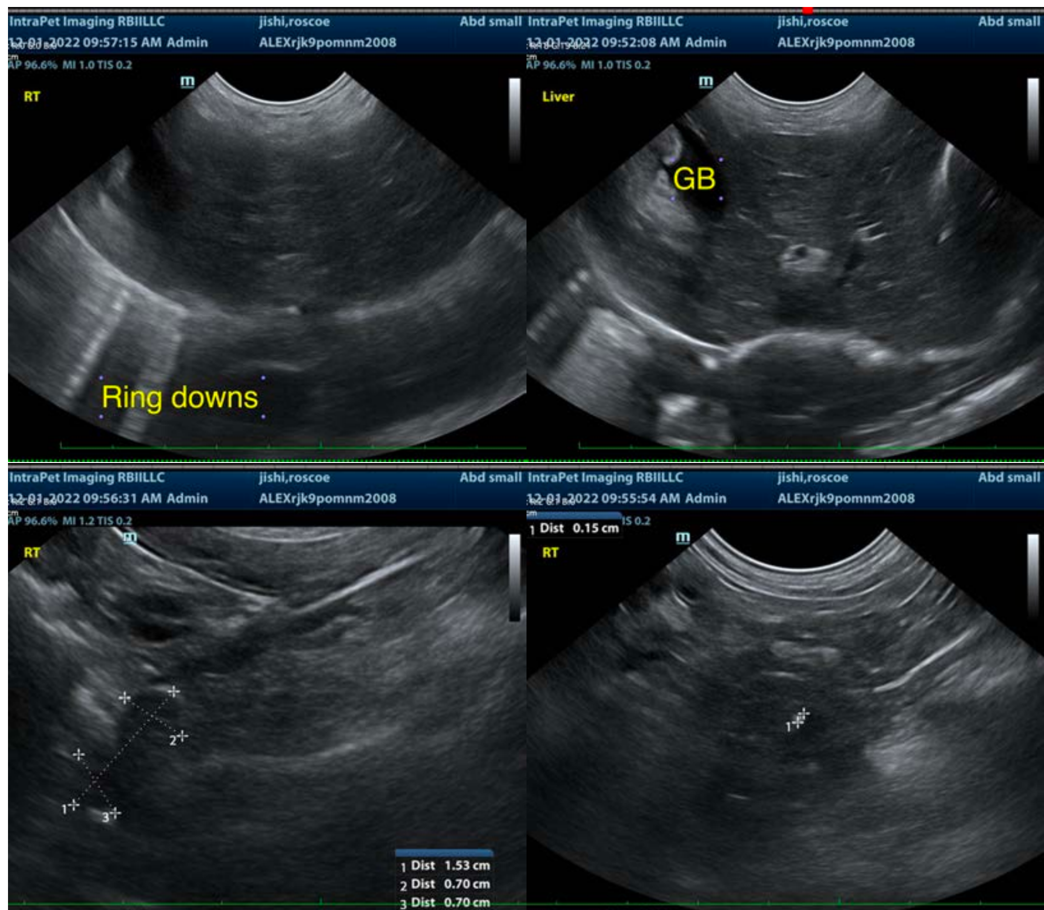
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

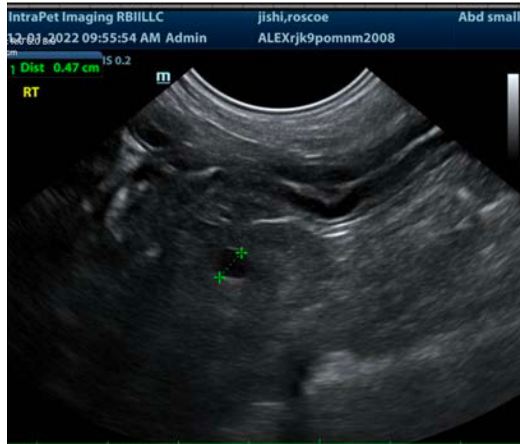
There is not an ultrasonographically visible cause for this patient's clinical signs, lethargy, trembling, etc. Therefore, the top differential is clinical signs still related potentially to pain. However, given the historical bloodwork, while improving, the BUN has been mildly increased despite a normal creatinine, which can suggest a gastrointestinal bleed. Therefore, empirical therapy of gastritis and microulceration could be considered with antacids +/- sucralfate.

Additionally, this patient's ultrasound findings, including adrenal gland changes, liver changes, and gallbladder changes, can all be seen with hyperadrenocorticism. Hyperadrenocorticism, however, does not typically result in lethargy, decreased appetite, and/or trembling. Therefore, further investigation of hyperadrenocorticism isn't recommended until pain and the underlying cause for the clinical signs is found and addressed, and then is only warranted if clinical signs of hyperadrenocorticism such as PU/PD, etc. are present.

In the meantime, however, a blood pressure is recommended if not recently evaluated, as is a urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

Given the ringdowns, three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

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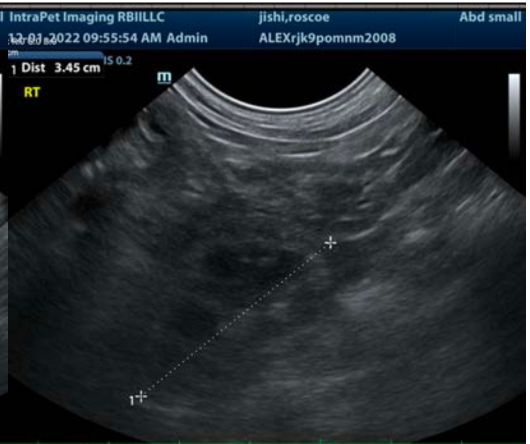
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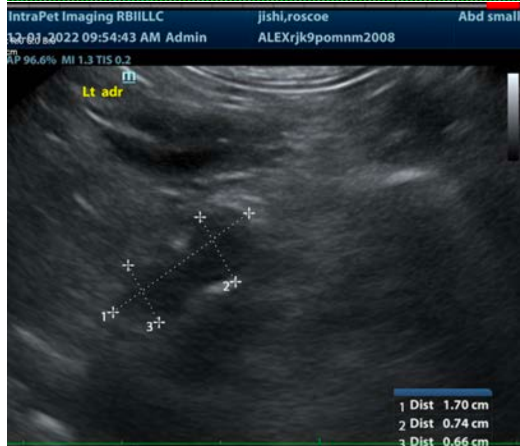
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Lt adr
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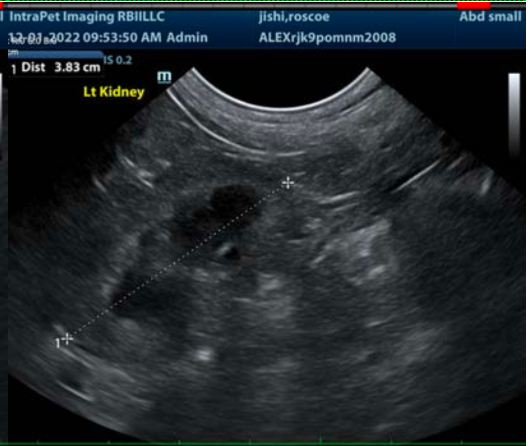
3 Dist 0.66 cm

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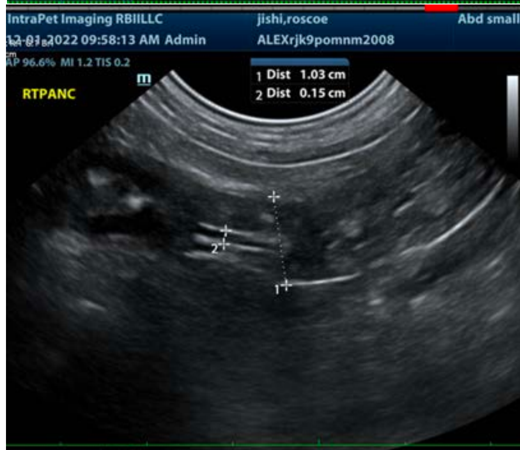
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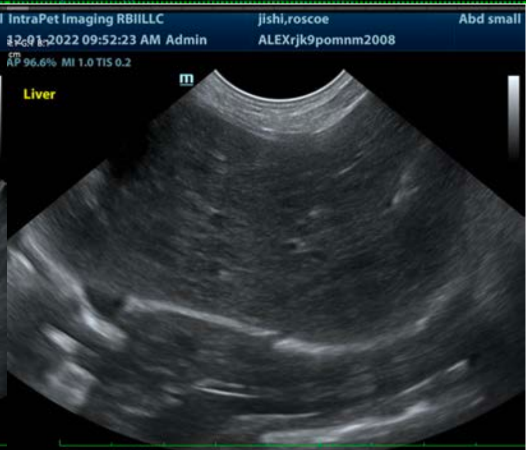
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Liver

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com