

IMAGING PERFORMED BY

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DATE PRESENTING CLINICAL SIGNS

3/1/22 Presenting Complaint: Vomiting. Tremors/Shaking/Trembling. Lethargic.

PATIENT

History: Date: 02-28-2022 Notes: Saw RDVM about 1.5 weeks ago, labwork had increase in ALKP, but otherwise wnl (owner has been talked to about Cushings).

Zoey Paul

SPECIES

Assessment: Started with gi workup. ALKp up some and ALT up-- pancreatitis vs incidental /related to cushings

Canine

Rads-- abnormal density grit vs fb vs mass vs intuss vs other.

BREED

Beagle

recommend IVF, repeat films
determine next steps== sx, US, medical

SEX

Spayed Female

Current Medications: Pantoprazole (Protonix) 40mg/vial Injection, Maropitant Citrate (Cerenia) 10mg/mL Solution Injection, Buprenorphine 0.6mg/mL, Pantoprazole (Protonix) 40mg/vial Injection.

AGE

2010

Lab Results: Attached.

Radiographs: Xray Abdomen 2 View
focal region of SI has sand like density-- obstruction vs sand vs mass vs fb vs obstruction

WEIGHT

34.6 Pounds

Xray
Repeat lat abdomen- stomach empty, material has moved through small intestine, foreign material in colon at this time. No sign of obstruction.

INTERPRETED BY

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

Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

IMAGING PERFORMED BY

Rachel Brilhart RDMS

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.

HOSPITAL NAME

Animal Emergency
Hospital

The left kidney has a normal shape and size (6.04 cm) with numerous small, non-obstructive nephroliths and many small cortical cysts, the largest of which are 0.73 cm and 0.84 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

REFERRING VET

Dr. King

The right kidney has a normal shape and is large in size (8.15 cm) with numerous small, non-obstructive nephroliths and many small cortical cysts, the largest of which are 0.73 cm and 0.84 cm. Additionally, there is a large cyst in the caudal pole measuring 3.67 cm x 3.21 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

INVOICE

35798

Adrenal Glands

The left adrenal gland is normal in size measuring 0.57 cm at the cranial pole, 0.87 cm at the caudal pole, and 2.54 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat irregular in appearance in that there is a small hyperechoic nodule visualized within the normal adrenal parenchyma measuring 0.69 cm x 0.39 cm. This lesion does not deviate the margins of the adrenal gland.

The right adrenal gland is normal in size measuring 0.80 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.

Spleen

The spleen is large in size. The spleen echotexture is heterogenous and mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There are numerous lesions within the spleen. Two intraparenchymal hypoechoic nodules are visualized measuring 1.23 cm x 1.26 cm and 1.82 cm x 1.10 cm. There is a larger hypoechoic, somewhat ill-defined region in the spleen measuring 3.15 cm x 2.29 cm. This is most consistent with either a splenic nodule or an area of infarction (suspect a nodule). And lastly, there is a larger hyperechoic mixed echogenicity mass visualized, which deviates the splenic capsule, measuring 4.21 cm x 3.15 cm.

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 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 hypoechoic as 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, 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 view of the heart was submitted. No significant pericardial effusion was seen.

ULTRASONOGRAPHIC FINDINGS

- Hyperechoic nodule within the left adrenal gland – This nodule is small and does not deviate the shape of the adrenal gland, and can very well be an incidental finding. Recommend continued monitoring.
- Decreased corticomedullary distinction in both kidneys with numerous cortical cysts and non-obstructive nephroliths. Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. The hyperechoic mineralized foci observed at the corticomedullary junction of the left/right kidney are consistent with small, non-obstructive nephroliths.
- Numerous splenic lesions, two hypoechoic nodules, and an ill-defined hypoechoic lesions (nodule versus infarct), and a larger mixed echogenicity mass – These could be consistent with benign or neoplastic lesions. Cytology or histopathology would be necessary to differentiate.
- Hypoechoic, prominent pancreas – The pancreatic changes are most consistent with mild/moderate pancreatitis/pancreatic inflammation. Recommend fPLI testing and continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving.
- 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.

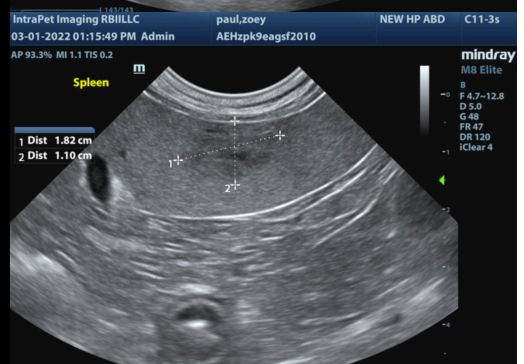
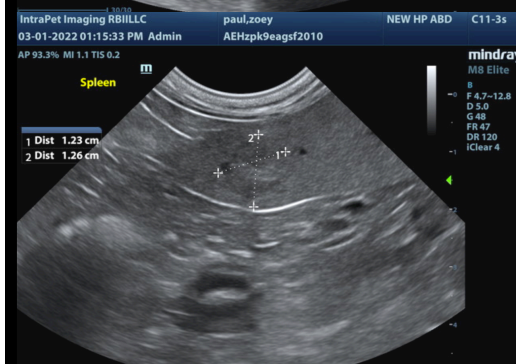
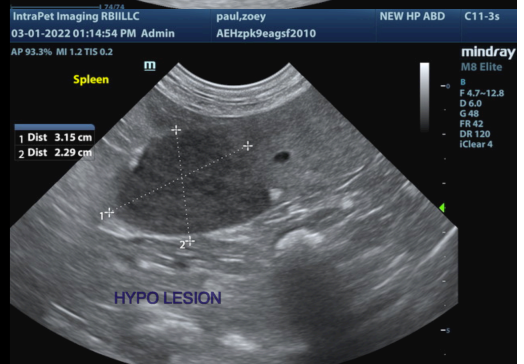
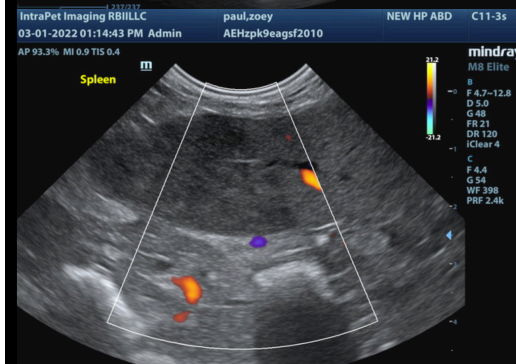
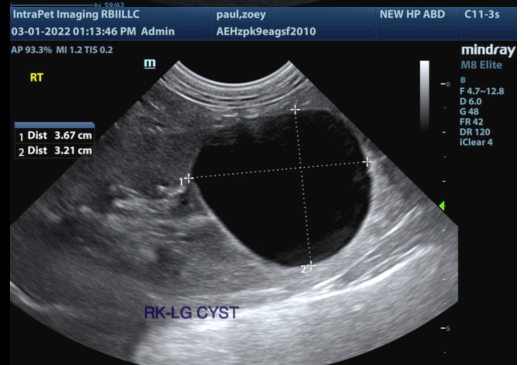
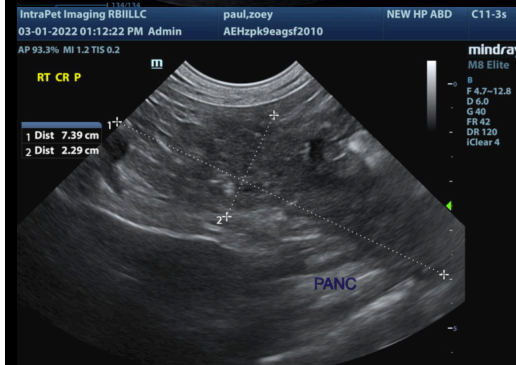
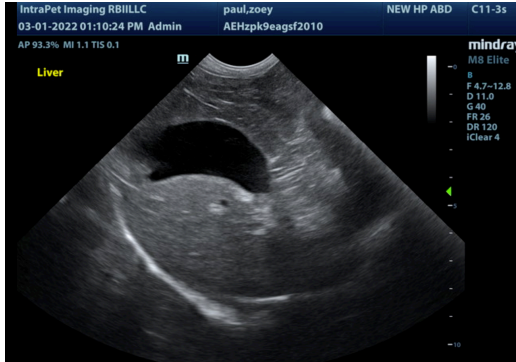
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

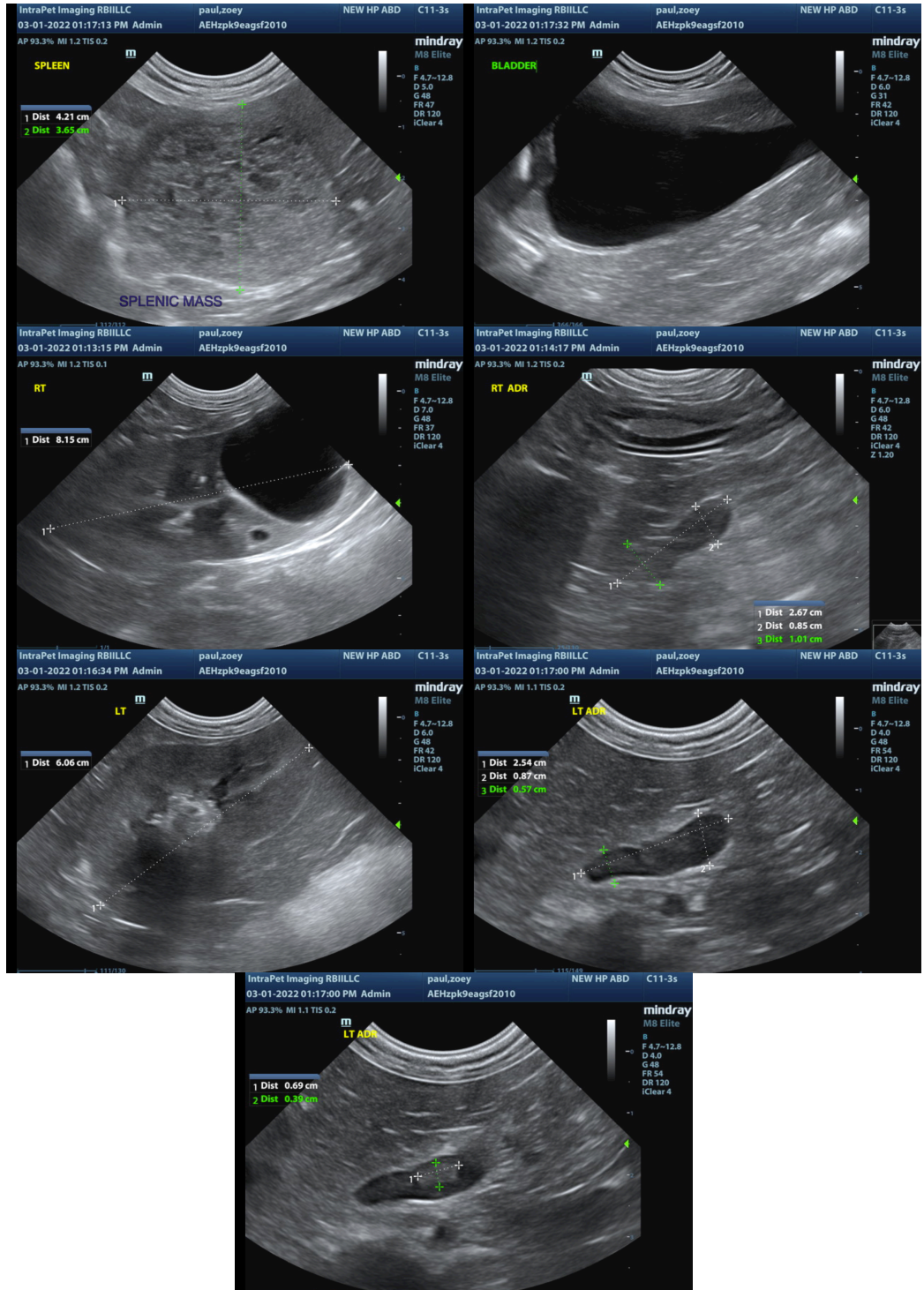
There are numerous nodules/small masses within the splenic parenchyma. The significance of this is currently unclear, as none of these definitively appear inflamed, or as a likely culprit for the abdominal pain reported. Due to the number of lesions present, I would consider splenectomy for both diagnostic and therapeutic purposes.

The pancreas appears somewhat prominent. This could be a possible candidate for the symptoms reported. Consider a GI panel with qualitative PLI, TLI, cobalamin and folate to further evaluate the pancreas and for additional small intestinal disease. Recommend symptomatic treatment for pancreatitis.

There is a hyperechoic nodule visible within the left adrenal gland. This gland is not enlarged, and the lesion does not deviate the size or shape of the structure. Recommend continued monitoring and a blood pressure evaluation. If the lesion appears to be changing or growing, then I would consider further evaluation for a developing adrenal mass. Use caution, as some adrenal lesions can change rapidly and be aggressive.

The renal changes are consistent with chronic progressive renal disease. Consider blood pressure evaluation, urinalysis and culture.





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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