

**DATE**

11/11/2022

PRESENTING CLINICAL SIGNS

Chronic vomiting for many months that has increased recently. Eating and drinking, a little off recently. Mild renal dysfunction, History of blindness and hypertension for many years. No diarrhea

PATIENT

Ion Wong

Current Medications: Amlodipine 0.9 mg BID, Benazepril 3.6 mg BID

Lab Results: mild azotemia, normal UA with dilute USG

SPECIES

Feline

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

BREED

DSH

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

SEX

FS

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.

AGE

2009

WEIGHT

10lb

The left kidney has a normal shape and size. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydronephrosis. Mild pyelectasia is present measuring 0.16 cm. Renal vasculature is normal. The left kidney measured 3.46 cm in length.

INTERPRETED BY

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The right kidney has a normal shape and size. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of infarcts or hydronephrosis. A small amount of nephroliths and mild pyelectasia is present, the pyelectasia measured 0.2 cm. Renal vasculature is normal. The right kidney measured 3.34 cm in length.

HOSPITAL NAME

Pleasantville Animal
Hospital

Adrenal Glands

The left adrenal gland is normal in size measuring 0.41 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.

The right adrenal gland is normal in size measuring 0.42 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.

REFERRING VET

Dr. Gounaris

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.

INVOICE

12128ag

Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. There are occasional hypoechoic nodules visualized, one of these nodules measured 0.7 cm in diameter. The visible portions of the vasculature and biliary tract appear normal.

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 appear mildly dilated and tortuous measuring 0.26 cm. No obvious obstructions are visualized.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.36cm 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 uniform diameter with minimal fluid distension. Wall thickness is normal to slightly increased. Bowel loops follow a typical curvilinear path with distinct wall layering, but some areas display a prominent muscularis layer which does not display the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured 0.27 mm in diameter and the jejunum measured 0.2 mm in diameter. 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

- Mild bilateral pyelectasia, this is mild in this patient. Consider a BP evaluation, UA and C/S as a baseline (this has already been done based on the previous diagnosis of hypertension)
- Mildly heterogenous liver with a hypoechoic nodule. Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis or other hepatopathy.
- Mildly dilated tortuous bile duct. Dilation of the common bile duct could be consistent with a functional obstruction (i.e. primary hepatic disease resulting in hepatocellular swelling) or with an extrahepatic bile duct obstruction (i.e. choledocholith, bile duct tumor, pancreatic disease, other).
- Prominent muscularis layer in the small intestine. The small intestinal wall changes could be consistent with an underlying inflammatory process. These types of changes can sometimes be seen in normal older cats. Correlate with clinical signs.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No focal lesions are visualized associated with the GI tract to explain the chronic vomiting reported. There are many causes of chronic vomiting that cannot be diagnosed by ultrasound alone.

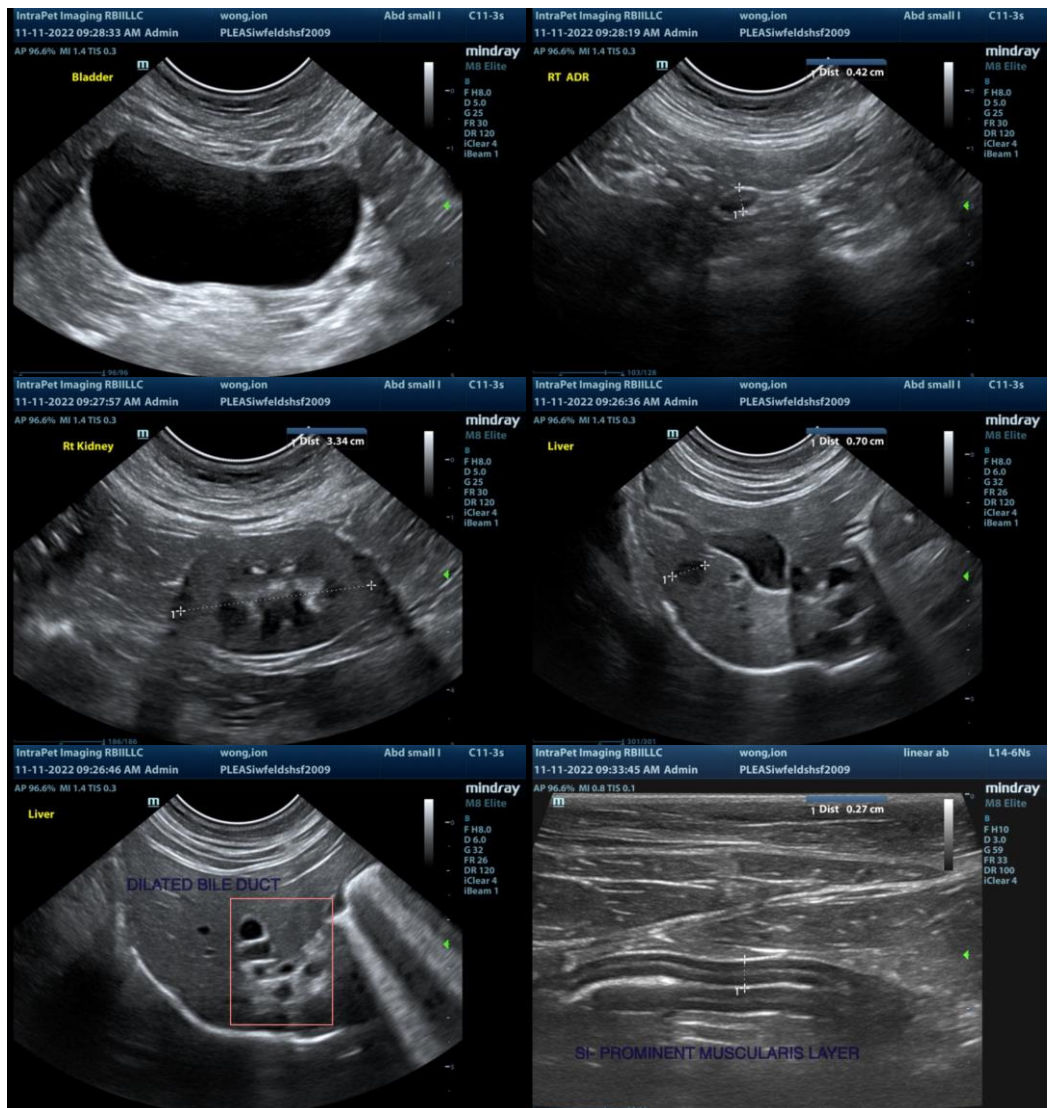
In older patients with more chronic symptoms, I would most strongly consider food allergy, IBD, and intestinal neoplasia.

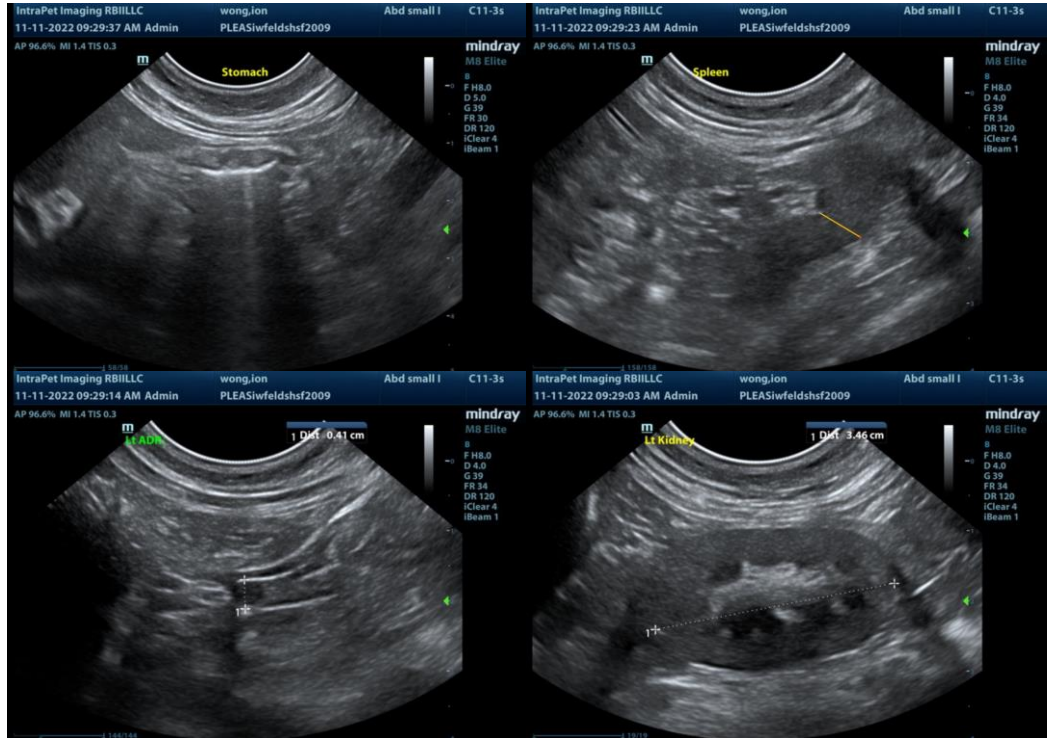
- recommend diet trial with a novel protein/hydrolyzed prescription diet
- Recommend GI panel for evaluation of B12 levels etc. (start empirical B12 while waiting for results)
- Recommended probiotic therapy
- If symptoms are progressing consider obtaining GI biopsies

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

The renal changes observed are relatively mild and most consistent with chronic progressive age-related renal disease.

The nature of the heterogenous liver and the hypoechoic nodule are unclear. There are no significant liver enzyme elevations reported. Options would include a FNA of the liver or the liver nodule if possible or continued monitoring with ultrasound.





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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