

**DATE PRESENTING CLINICAL SIGNS**

8/3/22

Chronic, historic hypercalcemia since February 2019; confirmed numerous times and ionized samples with malignancy panel. Recent acute onset chronic vomiting; now vomiting almost daily; weight loss. Examination: Mentation: BAR, MM: moist, pink, CRT <2 seconds. Cardiovascular: Grade 1/6 left systolic murmur. Respiratory: Normal. Abdomen: Soft and non-painful.

PATIENT

Titan Pirigy

SPECIES

Feline

BREED

Bengal

Current Medications: Gabapentin as needed prior to stressful events.

Lab Results: Historic, chronic hypercalcemia, otherwise NSF.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: IM sedation: Butorphanol (0.4 mg/kg IM) Alfaxalone (0.5 mg/kg IM) Dexmedetomidine (0.005 mg/kg IM)

Stat Report: Not requested.

SEX

Neutered Male

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.

AGE

9/30/14

The right kidney is normal in size (3.68 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, mineral or infarcts observed.

WEIGHT

10.5 Pounds

The left kidney is normal in size (3.54 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, mineral or infarcts observed.

INTERPRETED BYBeth Johnson, DVM
DACVIM**Adrenal Glands**

The right adrenal gland is normal in size (0.39 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.60 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

IMAGING PERFORMED BY

Rachel Brillhart RDMS

HOSPITAL NAME

Airpark AH

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.

REFERRING VET

Dr. Marciszewski

Liver

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

INVOICE

40145

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestine demonstrates areas of thick muscularis layer relative to mucosa (disruption of the normal 1:3 muscularis:mucosa ratio). Small intestinal submucosa is slightly irregular, thick and hyperechoic, without evident loss of layering appreciated. The lumen is empty with no evidence of obstruction or foreign material.

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

Pancreas

Pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and has a mildly irregular undulating contour. Parenchyma is coarse with mixed echogenic remodeling noted. Pancreatic duct dilation is noted.

Free Abdomen

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

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- **Inflammatory bowel disease (IBD) pattern** – Thick muscularis has been reported with infiltrative bowel disease including both benign inflammatory disease as well as infiltrative neoplasia such as lymphoma. No aggressive lymphadenopathy, loss of layering, etc. is noted to make lymphoma more probable, but lymphoma cannot be definitively ruled out without tissue sampling.
- Chronic active pancreatitis

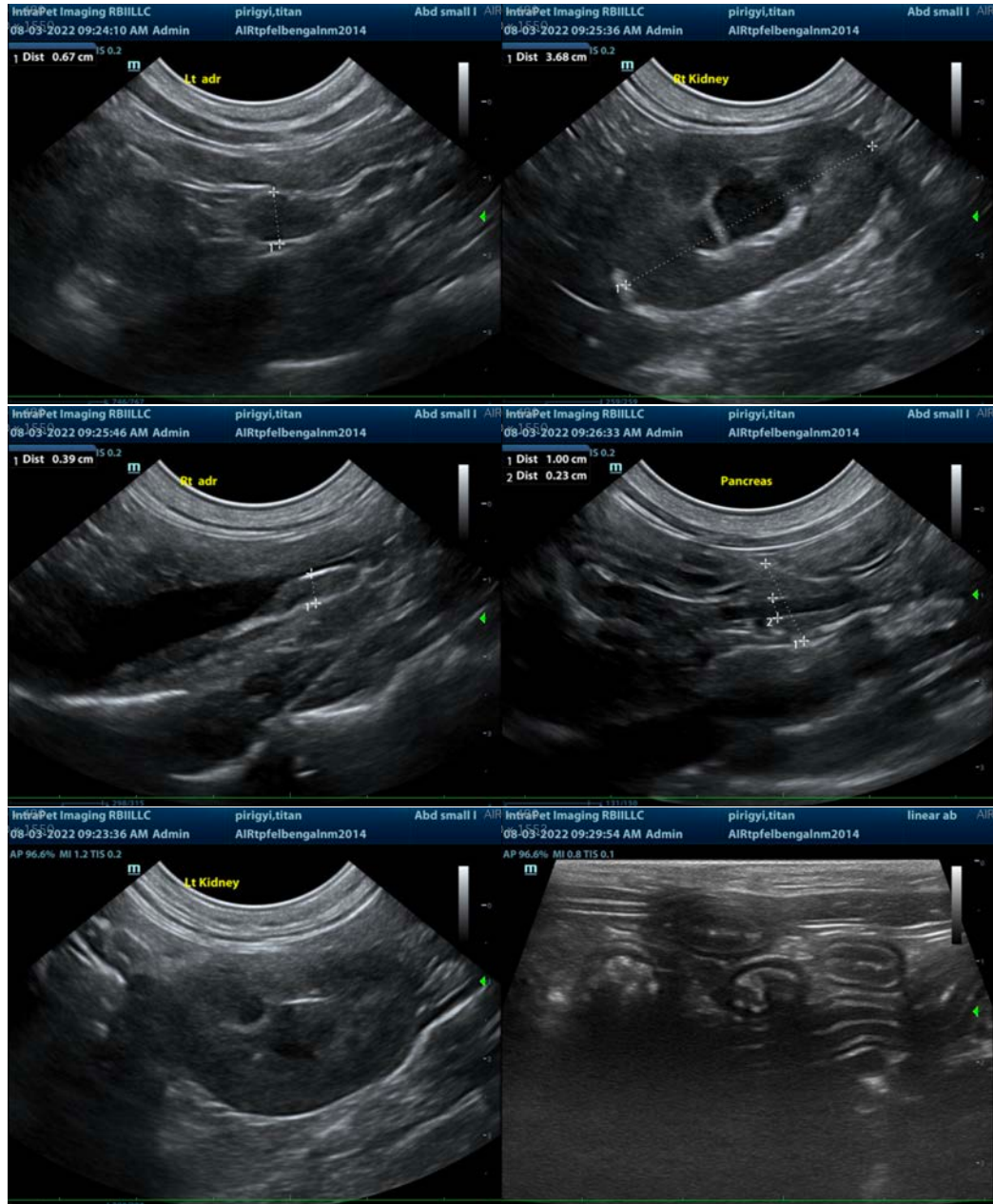
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

Ideally, biopsies of the GI tract being sure to include ileum, if possible, especially given the reported hypercalcemia, are recommended to definitively diagnose and therefore manage the infiltrative bowel disease.

In the meantime, a transition to a novel or hydrolyzed protein diet in addition to symptomatic management of the gastrointestinal signs could be considered, as well as management of the hypercalcemia, which may be contributing to vomiting, based on the reportedly already obtained results of a malignancy panel. If a malignancy panel including PTH, PTHrP, and ionized calcium has not recently been evaluated, one is recommended to help differentiate idiopathic hypercalcemia from hyperparathyroidism, from hypercalcemia associated with neoplasia, versus other.

These ultrasound findings are more consistent with benign inflammatory bowel disease than infiltrative lymphoma. However, both conditions can appear similar on ultrasound, and given the hypercalcemia, especially if PTHrP is increased, lymphoma has to be considered.



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