

**DATE PRESENTING CLINICAL SIGNS**

6/22/22 Recheck AUS. P does have HAC and possibly that is causing a sterid hepatopathy and at this point it would be indicated to treat HAC if that is the cause.

PATIENT

Mollie Richarts

Current Medications: None.

Lab Results: CBC: WNL. Chem: Mild hypercalcemia, has been elevated in past then returned to normal, Mild increase in total protein, not concerning at this time, Severe elevation of ALT, also elevations in AST, ALP and GGT: concern for liver/GB disease. UA: Well concentrated, Proteinuria, UPC 0.3, borderline PLN. TT4: WNL. 4Dx: Nx4. MF neg

SPECIES

Canine

Date of Previous IntraPet Ultrasound: 2/3/21. See attached.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

BREED

Bichon Frise X

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**SEX**

Spayed Female

Urinary System

The urinary bladder is moderately distended with largely anechoic urine, but there is some mild echogenic debris, and in the dependent portion of the urinary bladder there is an accumulation of hyperechoic shadowing calculi. Additionally, in the apical portion, the bladder wall appears somewhat thickened at approximately 0.50 cm with irregularities and mineralizations adhered to the wall. Correlate findings with abdominal radiographs. Findings are consistent with possible bacterial cystitis, likely inflammation and mineralization of the urinary bladder wall, and numerous cystic calculi.

AGE

10/7/10

WEIGHT

21.8 Pounds

The left kidney has a normal shape and size (5.05 cm) with non-obstructive nephroliths. 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.

INTERPRETED BY

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

The right kidney has a normal shape and size (5.15 cm) with non-obstructive nephroliths. 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.

IMAGING PERFORMED BY

Stephanie Pearce
RDCS, RVT

Adrenal Glands

The left adrenal gland is normal in size measuring 0.60 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.

HOSPITAL NAME

Taylorsville Vet Clinic

The right adrenal gland is normal in size measuring 0.46 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. Bray

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

38971

Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. 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 gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. 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 mottled 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.

PRIMARY FINDINGS

- Thickened irregular urinary bladder wall with dependent cystic calculi – recommend urinalysis and culture, and likely cystotomy.
- Decreased corticomedullary distinction in both kidneys with non-obstructive nephroliths – The bilateral renal findings are consistent with age-related change.
- Moderate gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

SECONDARY FINDINGS

- Prominent, mottled pancreas – The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

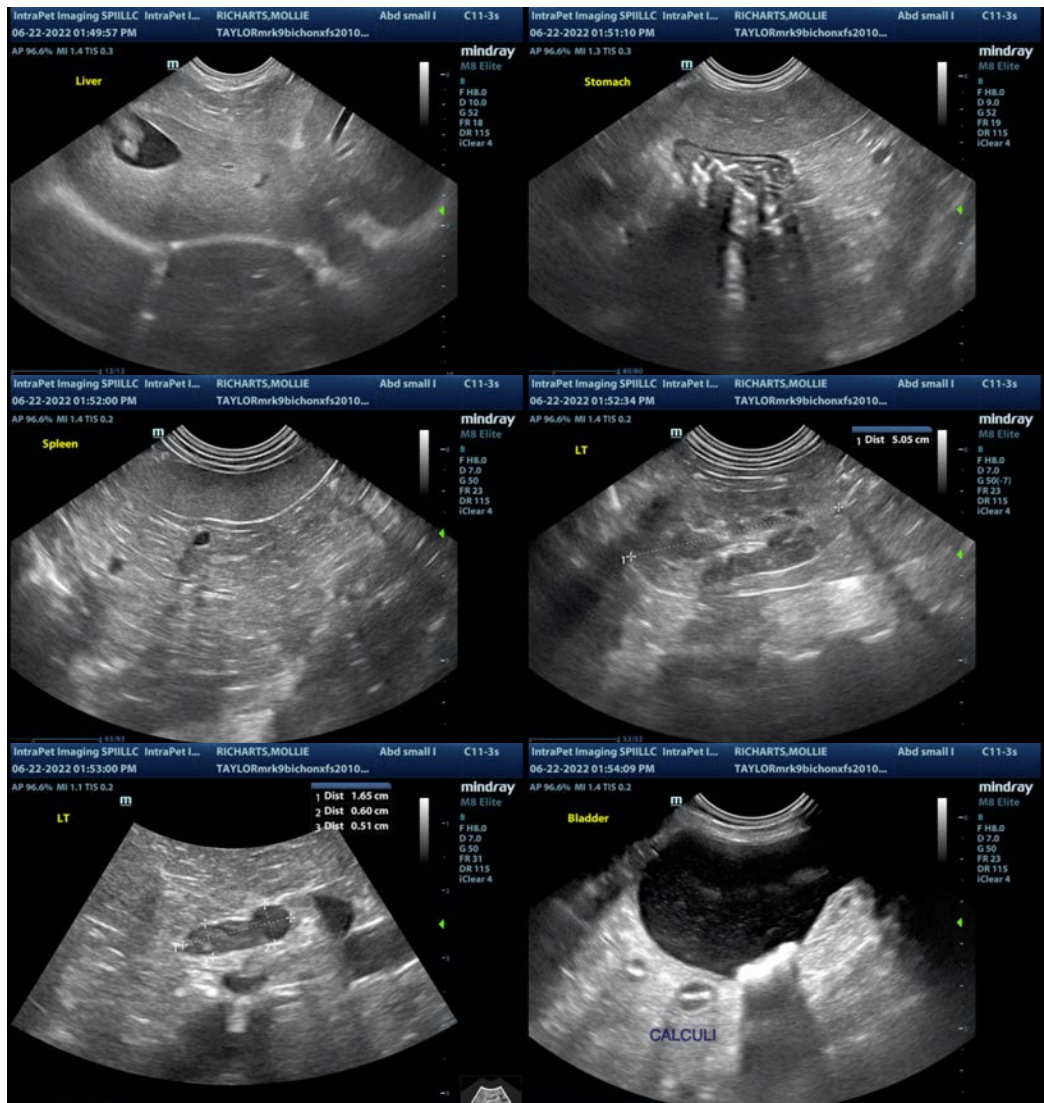
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

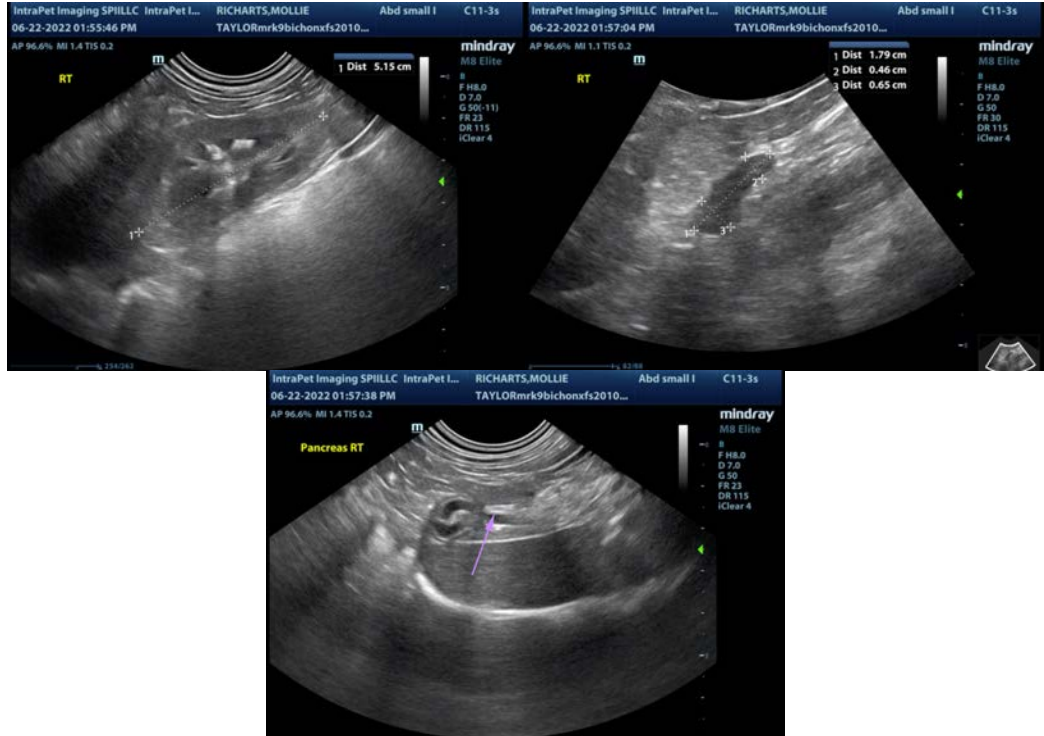
There are no changes observed on today's scan to explain the hypercalcemia noted. Recommend an ionized calcium, PTH and PTHrP level, as well as a careful digital rectal exam to look for any evidence of anal gland neoplasia. If the hypercalcemia is real and persistent, it is possibly associated with the stone formation in the urinary bladder, but additional diagnostics are required to determine if it is significant and real, and to look for possible differentials such as hyperparathyroidism, paraneoplastic disease, etc. Additionally, there is 4+

hemolysis on the lab work submitted. This can cause an artifactual rise in calcium and in liver values, so consider a fasted sample obtained without any hemolysis, and reevaluate both the liver enzymes and the calcium levels.

The remaining changes observed are subtle and non-specific and often seen in more aged pets. These include age related changes to the kidneys and pancreatic changes (which are most consistent with previous episodes of pancreatitis and/or pancreatic remodeling). There is a small amount of debris visualized within the gallbladder, but this is unlikely to require treatment at this time.

The lab work provided shows a primary ALT elevation and a lesser ALP elevation. This would not be typical for Cushing's. If these values are persistently elevated, then consider pre- and post-prandial bile acids, a fine needle aspirate of the liver, and screening for Leptospirosis. If these issues progress, a biopsy of the liver may be necessary to obtain a more definitive diagnosis.





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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