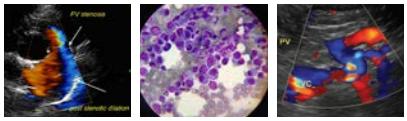
IMAGING PERFORMED BY

IntraPet.com



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**DATE**

6/22/23

**PATIENT**

Thor Jescovitch

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Neutered Male

**AGE**

12/15/13

**WEIGHT**

26.4 Pounds

**INTERPRETED BY**

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

**HOSPITAL NAME**

Everhart Vet Hospital

**REFERRING VET**

Dr. Notarangelo

**INVOICE**

43368

## PRESENTING CLINICAL SIGNS

Presented for annual wellness visit. Screening labs show ALKP elevation, twice previous levels in 2021. Pet is potbellied and obese. History of bladder stones calcium oxalate/urate mix.

Current Medications: OTOMAX 15 GM. 6/6/2023
Lab Results: 6/6/23: ALKP 1925, 8/2/21: ALKP 821
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder is moderately distended with anechoic urine. The Bladder wall appears relatively normal with no significant mucosal irregularities or thickening. In the dependent portion of the urinary bladder there is a large amount of shadowing debris, most consistent with sandy debris/small stones. This debris is visualized extending into the proximal urethra. No evidence of any mass lesion is visualized.

The visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (5.04 cm) with numerous non-obstructive nephroliths, the largest of which measures 0.70 cm, and mild pyelectasia at 0.38 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.13 cm) with numerous non-obstructive nephroliths, the largest of which measures at 0.50 cm, and pyelectasia at 0.29 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

### *Adrenal Glands*

The left adrenal gland is normal/borderline “plump” measuring 0.72 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 borderline “plump” measuring 0.67 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 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.

### *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 gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris and some areas have early mucosal stranding and organization of the debris into an early mucocele. There is a large amount of primarily non-organized echogenic debris present as well. There is no evidence of bile duct dilation.

### *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 uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Duodenum wall measures 0.49 cm. Jejunum wall measures 0.36 cm. 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

- Large amount of mineralized sandy debris/small stones visualized in the urinary bladder and proximal urethra – Correlate with abdominal radiographs, urinalysis and culture.

- Borderline bilateral adrenomegaly – The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended.

- Decreased corticomedullary distinction in both kidneys with numerous non-obstructive nephroliths and mild bilateral pyelectasia – 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. Pyelectasia of the kidney(s)could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

- 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.

- Large gallbladder debris with early mucosal stranding and organization – The gall bladder changes are most consistent with a developing mucocele. Consider medical management and close monitoring for progression of this lesion.

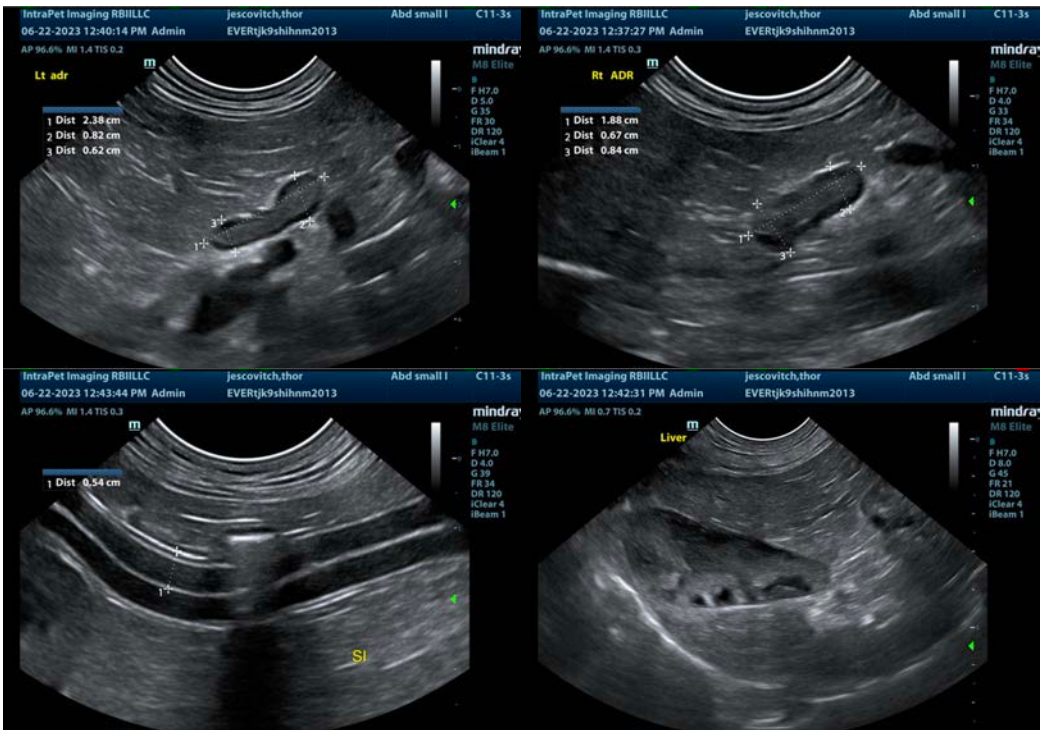
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

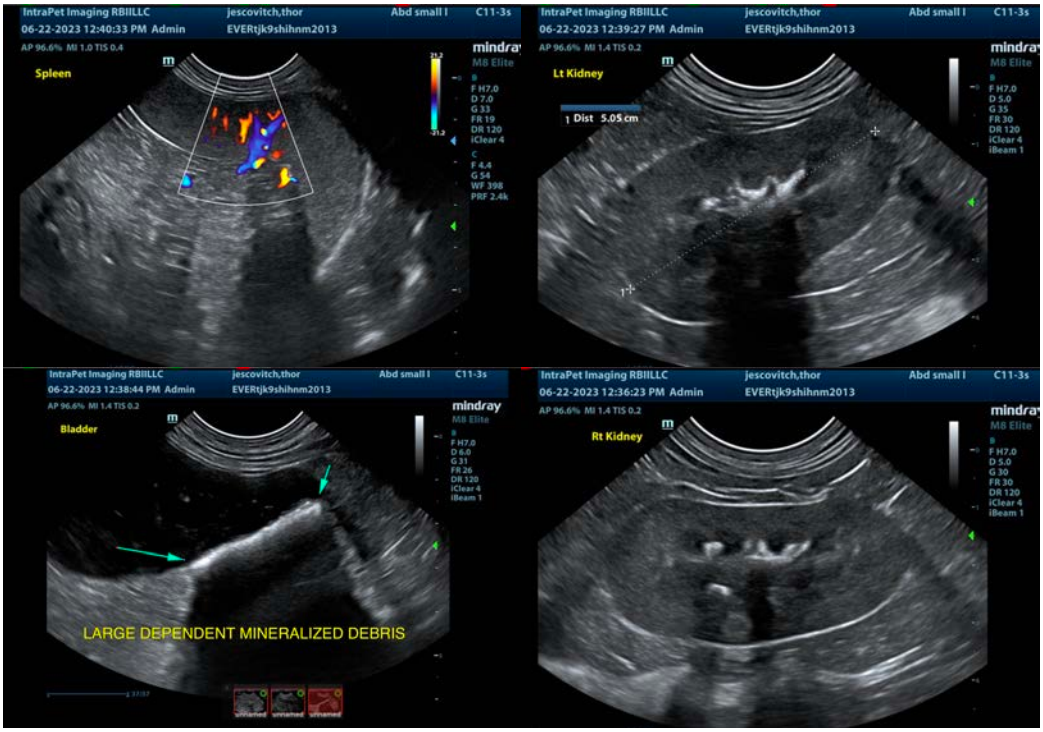
The liver is heterogeneous with no focal parenchymal lesions visualized. Additionally, there is an early gallbladder mucocele. These changes are non-specific, but given the ALP elevation and the plump adrenals, a vacuolar hepatopathy would be the primary differential. Consider a liver function test, and if signs of Cushing's are present recommend adrenal function testing. A fine needle aspirate could be considered, particularly if liver function is abnormal.

There are numerous nephroliths visualized in both kidneys with no evidence of a significant obstruction at this time. Additionally, there is a large amount of mineralized debris visualized within the urinary bladder. Correlate these findings with urinalysis, culture and radiographs. Given the relatively non-active urine sediment, you might be able to consider continued monitoring of this individual, but there is some risk for further obstruction if the sandy debris accumulates.

There is a large amount of debris visualized within the gallbladder with early organization of the debris forming an early mucocele/developing mucocele. Consider Ursodiol therapy and continued monitoring of the gallbladder for progression of this lesion.

The serum calcium is reported as elevated. Given the stones present, consider an ionized calcium and PTH level to try and determine if the hypercalcemia reported is significant, as this could be contributing to stone formation.






**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.

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