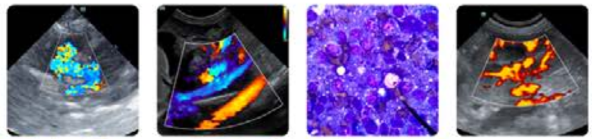




**PATIENT**
Anubis Pagan

**SPECIES**
Canine

**BREED**
Miniature Schnauzer

**SEX**
Neutered Male

**AGE**
13 Years

**WEIGHT**
19.0 lbs

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

**IMAGING PERFORMED BY**
Dr. Gabriel Ferrer

**HOSPITAL NAME**
Pulse: Pet Ultrasound

**REFERRING VET**
Dr. Adriana Del Toro

**INVOICE**
75513

**DATE**
5/28/26

## PRESENTING CLINICAL SIGNS

Px presented as a referral for a combined echocardiogram and abdominal ultrasound study due to persistently elevated hepatic enzyme values and a dry cough. Px originally visited rDVM for a routine annual visit, bloodwork was performed and elevated hepatic enzyme levels were noted. During the course of Tx Px developed a dry cough, a Grade III / IV was auscultated, and radiographs were performed. Px is not currently taking any Mx, but the diet was changed to a hepatic diet.

Abnormal PE/Chem/CBC/UA Results: Bloodwork and radiographs attached below for your reference

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder is moderately distended with moderate suspended echogenic debris present. 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 calculi. Echogenic debris of this type can be associated with small crystals, cellular debris and proteinaceous debris.

The prostate is normal in size (0.85 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (4.33 cm) with mild pyelectasia at 0.18 cm. Overall echogenicity is slightly hyperechoic with mildly reduced 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.09 cm) with pyelectasia at 0.27 cm. Overall echogenicity is slightly hyperechoic with mildly reduced 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

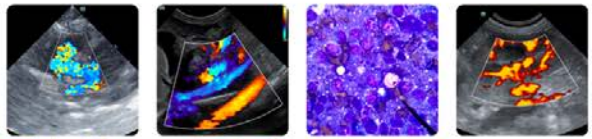
### *Adrenal Glands*

The left adrenal gland is plump, measuring 0.52 cm at the cranial pole and 0.67 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 0.71 cm at the cranial pole and 0.62 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 (1.55 cm), 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.





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### Liver

The liver is large in size with rounded 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 moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and likely incidental at this time. In some views there is slightly irregular echogenic material visualized in the gallbladder neck, likely consistent with debris, but a small polypoid-like lesion cannot be ruled out. This area measures 0.69 cm x 0.56 cm. The cystic and common bile ducts are normal/not visible.

### Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of 0.34 cm 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. Duodenum wall measures 0.43 cm. Jejunum wall measures 0.39 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 visible/mildly mottled in both limbs. There is no evidence of regional mesenteric inflammation or fluid.

### Free Abdomen

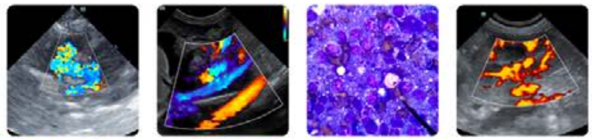
Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There are occasional prominent lymph nodes. The iliac lymph nodes are prominent, measuring 0.56 cm in width on the right and 0.73 cm on the left. A mesenteric lymph node is visualized measuring 0.43 cm. The omentum is of normal echogenicity.

## ULTRASONOGRAPHIC FINDINGS

- Suspended echogenic debris in the urinary bladder – The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus.

- Age related changes and mild pyelectasia visualized associated with both kidneys – Pyelectasia of the kidney(s)could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

- Plump left adrenal gland with a normal right adrenal gland – Findings could be consistent with anatomic variation, early hyperplasia, etc.





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- Visible/mildly prominent, mottled pancreas – Findings could be consistent with pancreatic remodeling. No evidence of active inflammation is noted.

- Large, heterogeneous, rounded 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.

- Small amount of irregular material in the gallbladder neck – This is likely incidental but should be monitored, as a small polypoid-like lesion cannot be ruled out.

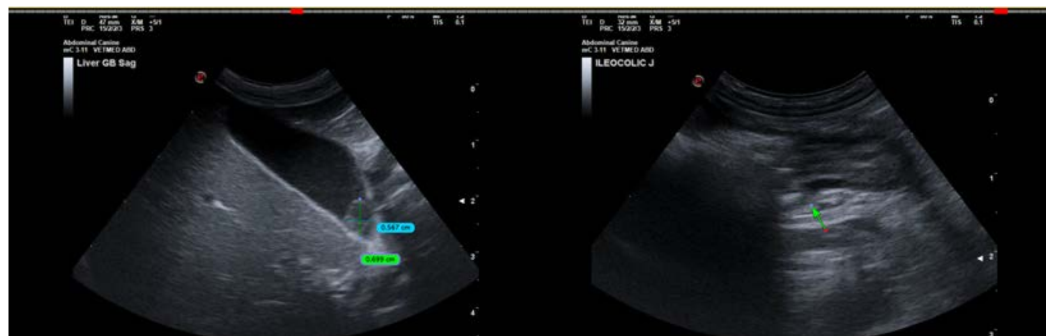
- Occasional prominent iliac and mesenteric lymph nodes – The appearance is most consistent with reactive lymph nodes. Recommend continued monitoring. An early neoplastic process cannot be ruled out.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No focal lesions are visualized associated with the liver. It appears generally enlarged, slightly rounded, and heterogeneous, possibly consistent with a vacuolar hepatopathy or similar hepatopathy. Further evaluation would likely include pre- and post-prandial bile acids to assess liver function, and a fine needle aspirate. If a more significant hepatopathy is suspected, liver biopsies with samples for histopathology, culture and copper levels could be considered.

The left adrenal gland is mildly enlarged. The right is prominent but not overtly enlarged. If the patient has symptoms consistent with Cushing's, you could consider adrenal function testing.

There is a moderate amount of suspended debris in the urinary bladder and mild pyelectasia visualized associated with both kidneys. Consider a urinalysis and culture, looking for any evidence of infection, pyelonephritis, etc.



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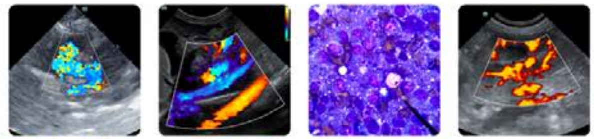



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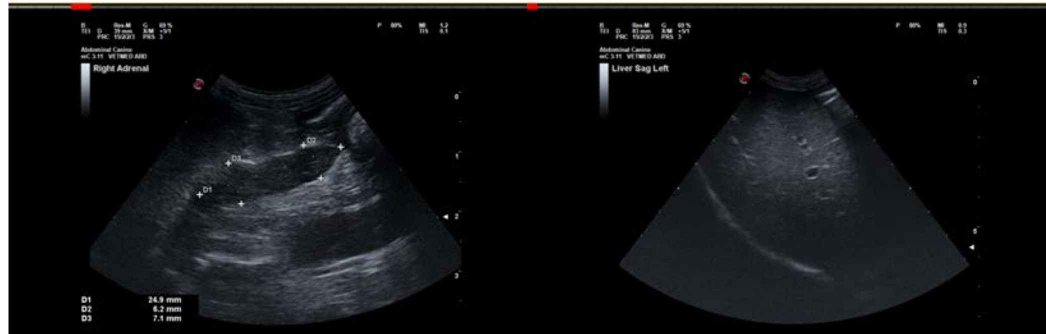


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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)

info@sonopath.com