

PATIENT

Panda Anstie

SPECIES

Canine

BREED

Pomeranian

SEX

Neutered Male

AGE

7 Years

WEIGHT

7.8 kg

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Sarah Barthelemy

HOSPITAL NAME

Stoney Trail VC

REFERRING VET

Stoney Trail VC

INVOICE

23222

DATE

7/7/23

PRESENTING CLINICAL SIGNS

History: No clinical signs. Pre-anesthetic lab screen showed elevated ALP value.

Abnormal PE/Chem/CBC/UA Results: ALP 1200 Serum bile acids mild post-prandial elevation 35.7 LDDST normal

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** presented a minimal amount of urine yet thickened echogenic mucosal changes, suggestive for a history of cystitis. Urinalysis is warranted to assess for any evidence of UTI. The pelvic urethra was imaged 1.0 cm beyond the cystourethral junction. The residual prostate was uniform, measuring 0.66 cm.

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 4.2 cm. The left kidney measured 4.23 cm.

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 0.29 cm at the caudal pole and 0.47 cm at the cranial pole. The left adrenal gland measured 0.29 cm at the cranial pole and 0.33 cm at the caudal pole.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

Liver

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some minor age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal. No overt evidence of active inflammatory, infiltrative or regenerative pathology was noted but should be paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.

Gastrointestinal

There was some residual chyme and gas was noted in the **stomach**, yet not pathological. This is consistent with end post prandial presentation. Transit of chyme into the small intestine was normal.



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Curvilinear patterns were maintained throughout the GI tract. No evidence of pathology. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted. The pylorus was free of evident pathology.

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Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxyphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

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ULTRASONOGRAPHIC FINDINGS

- Benign abdomen- no evidence of significant pathology. These are largely age-related abdominal changes.
- Urinary bladder echogenic mucosal changes, suggestive for a history of cystitis. Urinalysis is warranted to assess for any evidence of UTI.
- Partially full stomach

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

FNA of the liver could be considered for further definition. Spurious bile acid elevation can occur on occasion. If the bile acids are persistent, then FNA or core liver biopsy is indicated, or diet change. The following protocol or portions of the following protocol could be considered if the bile acid elevations are persistent.

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Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy

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Royal Canin Hepatic Support diet or Hills L/D, Metronidazole (7.5 mg/kg PO bid) over the next 14 days, **Lactulose** (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base) long term to target 2-3 soft stools/day, with a **high-quality protein supplement** of minor amount of **yogurt** or **cheddar cheese**. Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. SAME and nutraceuticals as needed. **Ursodiol** (10-15 mg/kg p.o. q24h) can be considered as hepatoprotectant and to enhance bile flow. **Zinc** serum level keep between 200—500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic.

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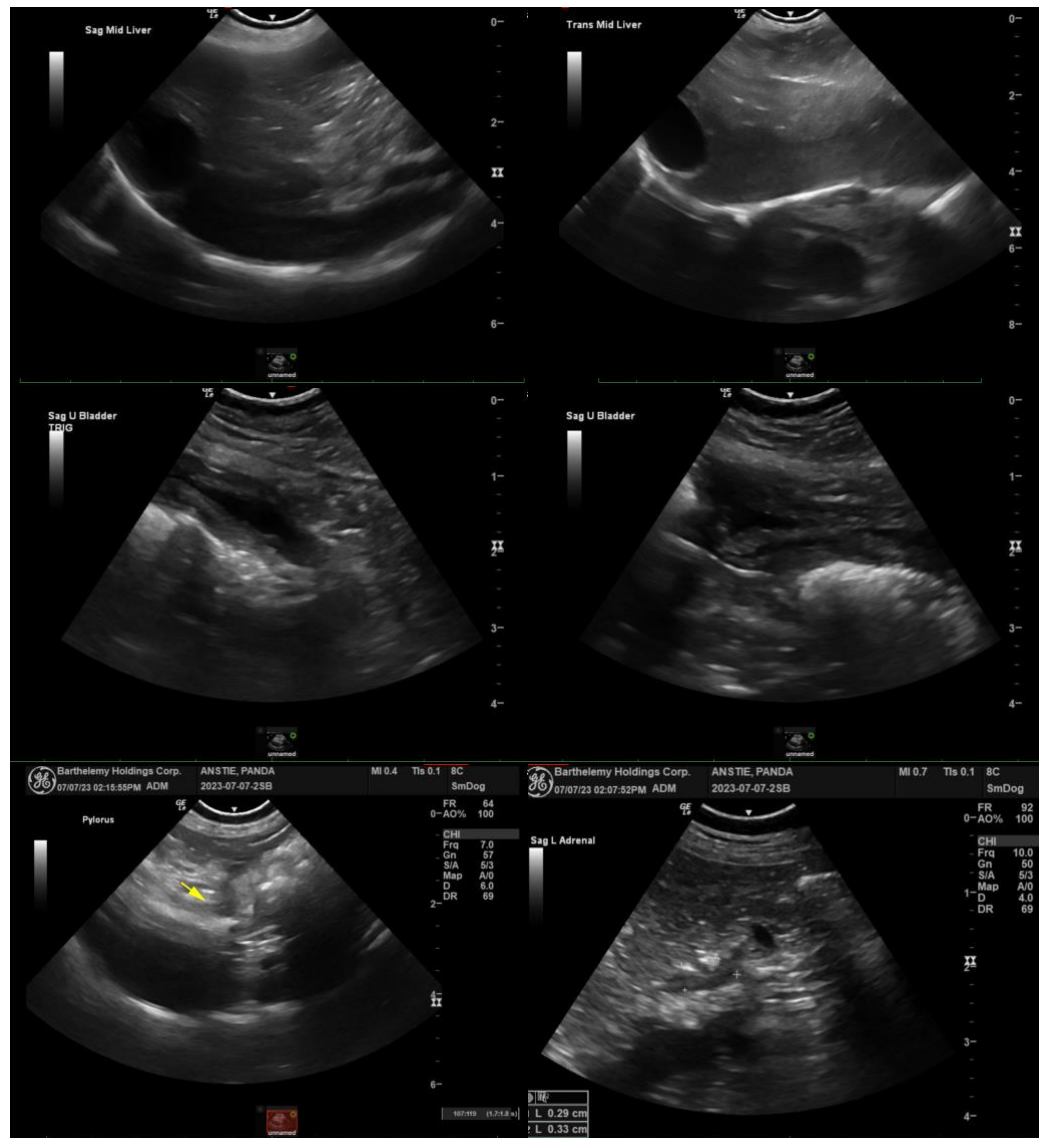
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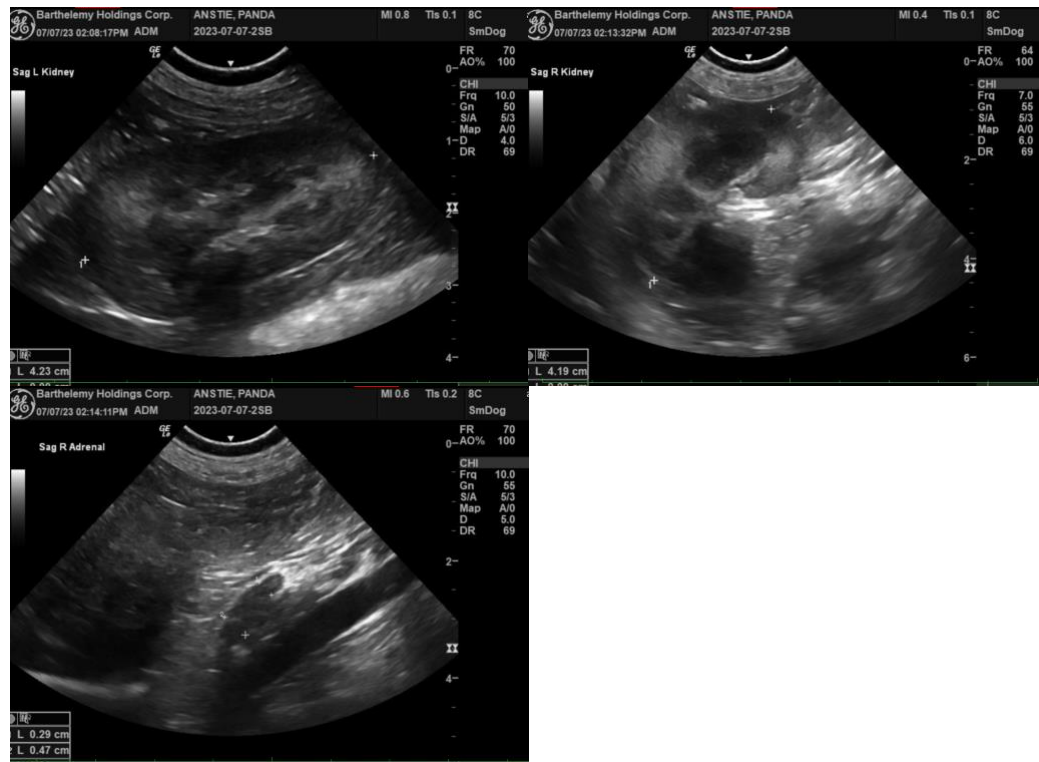
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
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