



**PATIENT PRESENTING CLINICAL SIGNS**

Benji Chiabai

History: Acute vomiting - unable to keep food down for the last 24 hours. Hx of proteinuria - last Urine Protein: Creatinine Ratio 8.4 on November 10th Current meds; Telmisarten and Gabapentin Urinalysis and cPLI pending 4/6 Heart murmur

**SPECIES**

Canine

Abnormal PE/Chem/CBC/UA Results: PE - mild dehydration and mild abdominal discomfort on palpation IDEXX SDMA 47 [0 - 14 µg/dL] Creatinine 256 [44 - 159 µmol/L] Urea (BUN) 35.4 [2.5 - 9.6 mmol/L] Phosphorus= >5.20 [0.81 - 2.20 mmol/L] Chloride 108 [109 - 122 mmol/L] ALP 1,120 [23 - 212 U/L] Amylase 2,105 [500 - 1,500 U/L] Lipase 5,924 [200 - 1,800 U/L]

**BREED**

Shih Tzu

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**SEX**

Neutered male

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. The bladder revealed small calculi that measured up to 0.5 cm. The patient is likely passing calculi periodically. Urethral sand was noted in the proximal urethra.

**AGE**

9 years

The **kidneys** revealed loss corticomedullary definition was noted along with cortical remodeling. Corticomedullary calculi were noted in both kidneys with slight pyelectasia. The right kidney measured 4.32 cm with an anechoic 0.5 cm cyst at the caudal medial cortex. The left kidney measured 4.33 cm.

**WEIGHT**

6.89 kg

**Adrenal Glands**

**INTERPRETED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS

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 left adrenal gland measured 0.5 cm at the cranial pole and 0.57 cm at the caudal pole. A hyperechoic nodule was noted at the cranial pole of the right adrenal gland and measured 1.0 cm.

**IMAGING PERFORMED BY**

Andrew Holmes

**Spleen**

**HOSPITAL NAME**

Cedarview AH

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 was noted.

**REFERRING VET**

Dr. Limbrick

**Liver**

**INVOICE**

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The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some 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 was mildly over distended with suspended and dependent debris, yet not to the level of emerging mucocele. However, the sludge appears to be mildly excessive. No adjunctive inflammation was noted.

**DATE**

3/17/22



**PATIENT**

**Gastrointestinal**

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Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. 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.

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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 subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

**SEX**

Neutered male

**AGE**

9 years

**Free Abdomen**

Slight iliac lymph node enlargement was noted at 0.8 x 0.4 cm.

**WEIGHT**

6.89 kg

**ULTRASONOGRAPHIC FINDINGS**

Moderate degenerative renal changes, do not appear subjectively end stage.

Right adrenal gland measured 0.6 cm in maximum width. Right adrenal adenoma.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

Small, non-obstructive bladder calculi.

**IMAGING PERFORMED BY**

Andrew Holmes

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Passage of calculi periodically from the kidneys to the bladder is likely an issue. 72-hour IV fluid protocol, urine culture and sensitivity and GI protectants are all indicated along with Ursodiol therapy as the gallbladder is consistent with emerging mucocele. Serial blood pressure measurements are recommended. If the patient appears Cushingoid then work-up for right adrenal dependent Cushing's. Eventual cystotomy, stone analysis and culture is warranted. however, the bladder should be imaged just prior to surgery to ensure that movement of the calculi and sand have not occurred. If cystotomy is to be performed then right adrenalectomy could be considered as well as manual expression of the gallbladder.

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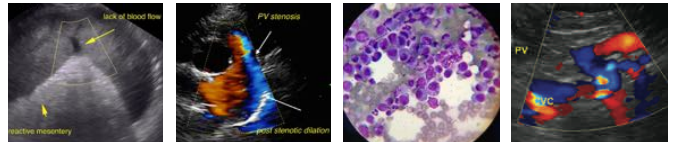
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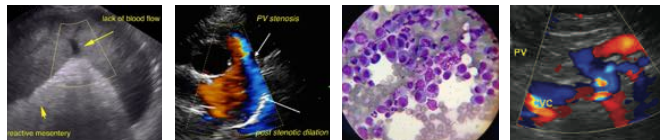
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.



**PATIENT**

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

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