



**PATIENT**

Teddy Kennedy  
Schwartz

**SPECIES**

Canine

**BREED**

Shih Tzu Maltese Mix

**SEX**

Neutered male

**AGE**

13 years

**WEIGHT**

14.8 lbs

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Kelly Vazquez, CVT

**HOSPITAL NAME**

Animal General  
Hudson

**REFERRING VET**

Dr. Ng

**INVOICE**

42502

**DATE**

2/1/23

**PRESENTING CLINICAL SIGNS**

History: Patient with history of mitral and tricuspid regurg., hepatomegaly, and uroliths, presents for follow up echo and abdominal ultrasound; last performed on 3/2/2022. Current meds: Denamarin, lasix 9.3 mgs BID, spironolactone 12.5 mgs BID, thyroxine 0.2 BID, Pimobendan 2.5 mgs BID.  
Abnormal PE/Chem/CBC/UA Results: ALT 223, ALP 1019 (improved on Denamarin), GGTP 57, BUN 58, creat. 1.5, PSL 368, amylase 1182, Mg. 2.8, WBC 18.2 - neutrophils 16380.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. Multiple bladder calculi were noted and measure dup to 0.81 cm. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Renal mineralization was noted. A cortical infarct was noted in the caudal pole of the right kidney. The right kidney measured 3.6 cm. The left kidney measured 3.91 cm.

**Adrenal Glands**

Both **adrenal glands** were visualized and recognized as having normal 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 1.55 x 0.78 cm at the caudal pole and 0.66 cm at the cranial pole. The left adrenal gland was at the upper limits of normal and measured 2.21 x 0.66 cm at the caudal pole and 0.95 cm at the cranial 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 was noted. Splenic mineralization was noted and is minor.

**Liver**

The **liver** revealed a mixed, hypoechoic, moderately disruptive nodule that measured 2.5 x 1.84 cm with minor inflammatory pattern. A separate nodule was noted in the left liver that measured 0.71 x 0.46 cm. Other heterogenous changes were noted throughout the liver. The remainder of the liver was unremarkable with coarse architecture and slight, heterogenous parenchymal changes. The gallbladder



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presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident.

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**Gastrointestinal**

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. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

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**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

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Undefined hepatic nodules. Pronounced hyperplasia versus carcinoma. Abscessation is less likely.

Non-obstructive nephrolithiasis with moderate, degenerative renal changes.

Prominent adrenal glands, particularly the left adrenal gland.

**INTERPRETED BY**

Bladder calculi.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Ultrasound-guided FNA of the nodules is recommended with cytology and culture. Eventual cystotomy, stone analysis and culture are indicated. The kidneys do not appear end stage. Periodic azotemia may be occurring as the patient passes calculi, yet no obstructive disease is noted at this time. Blood pressure measurements are recommended. If the patient appears Cushingoid then work up for Cushing's is indicated. PDH would be a likely cause of the adrenal enlargement. However, emerging left adrenal tumor cannot be completely ruled out.

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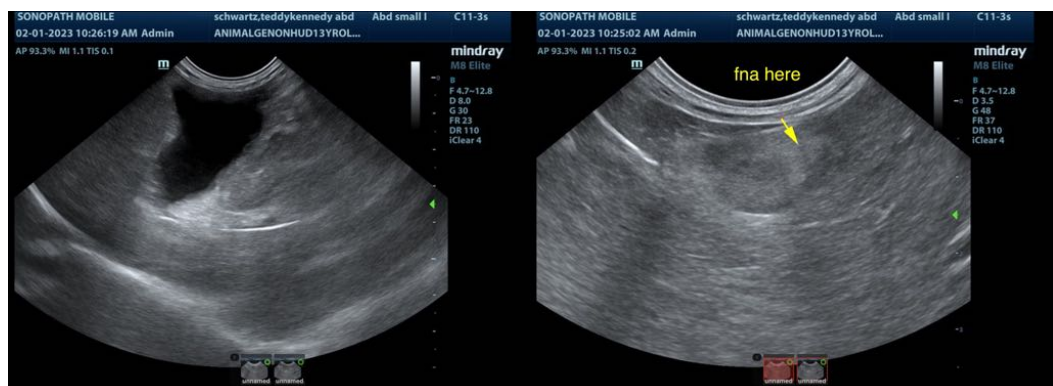
Dr. Ng

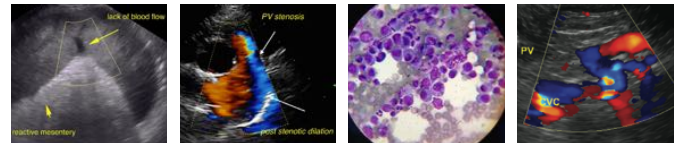
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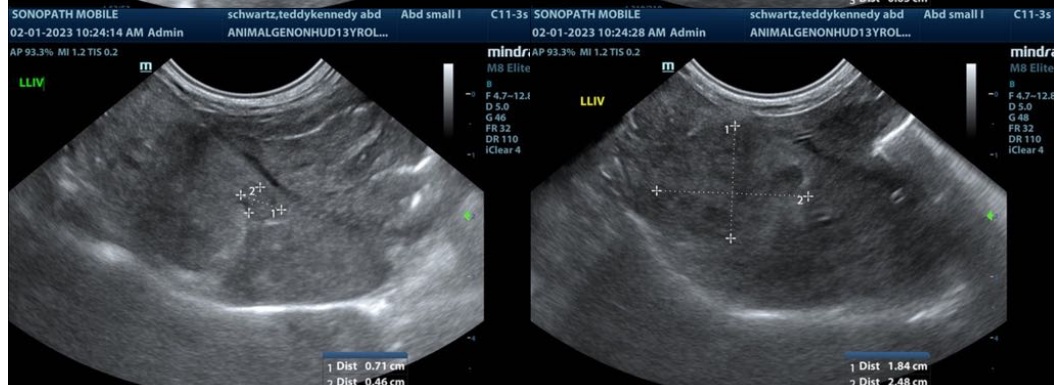
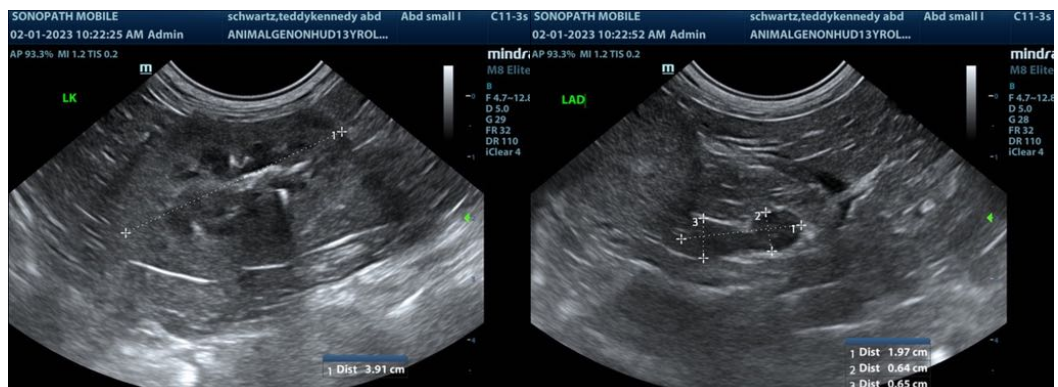
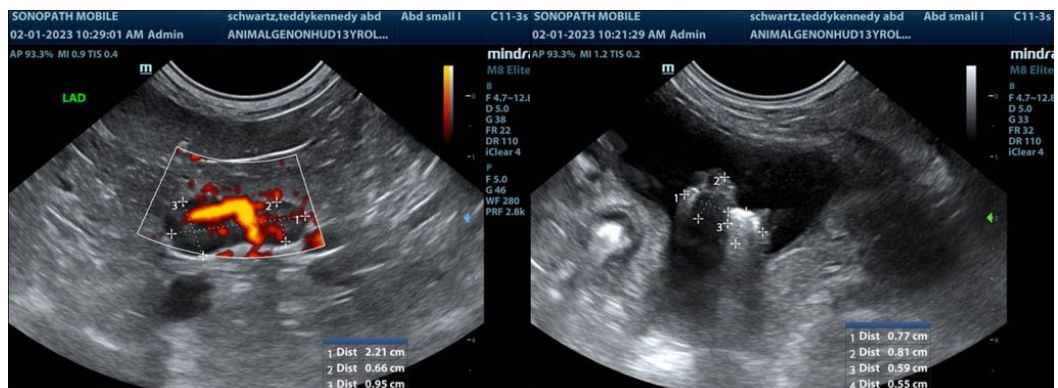
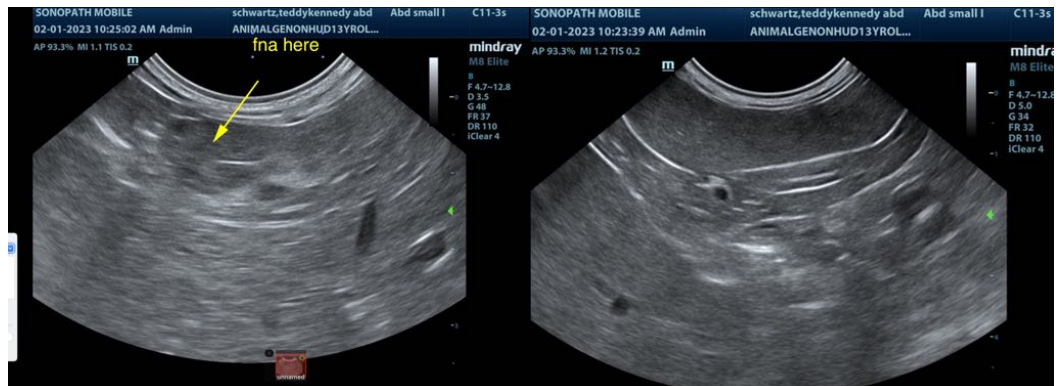
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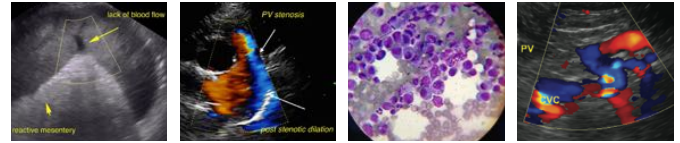
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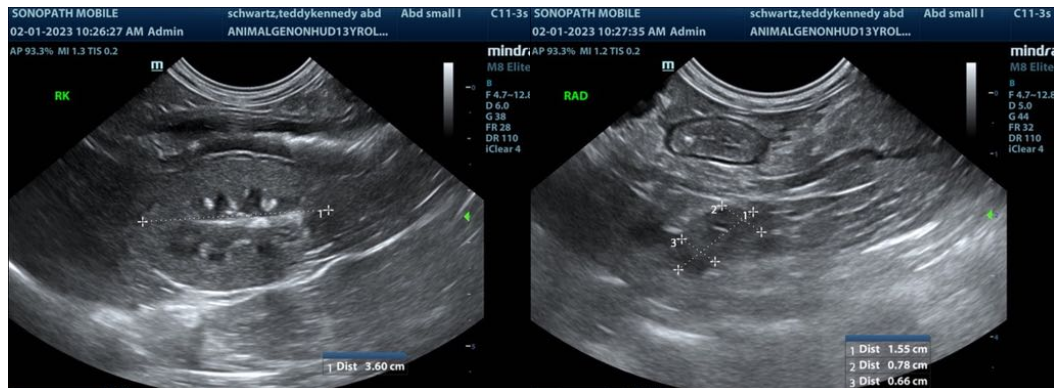
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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