



**PATIENT PRESENTING CLINICAL SIGNS**

Max Hu

History: Has been to emergency clinic for history of urolithiasis. A cystotomy was done 2-3 weeks ago incision is healing well. Owner is concerned about possible shunt.

**SPECIES**

Abnormal PE/Chem/CBC/UA Results: Routine blood work done with mild elevation of liver enzymes but no bile acids have been done at the emergency clinic prior to cystotomy.

Canine

**BREED**

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Shih Tzu

The **urinary bladder** and trigone presented normal thicknesses and normal tone. The urethra revealed calculus that measured 0.2 cm. Bladder sand and calculi were noted with a grouping of 1.13 cm and was non-obstructive at the time of the sonogram. A minor amount of suspended debris was noted.

**SEX**

Intact male

The residual prostate was uniform and measured 0.8 cm.

**AGE**

7 months

The **kidneys** were normal in size and contour. The left kidney measured 4.13 cm with corticomedullary mineralizations noted. The right kidney measured 4.38 cm.

**Adrenal Glands**

**WEIGHT**

3.5 kg

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 0.24 cm at the caudal pole and 0.33 cm at the cranial pole. The right adrenal gland measured 0.3 cm at the cranial pole and 0.3 cm at the caudal pole.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**Spleen**

**IMAGING PERFORMED BY**

Dr. Belan

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.

**HOSPITAL NAME**

Beddington Trail AH

**Liver**

**REFERRING VET**

Dr. Banahur

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. The portal vein at the portal hilus measured 0.3 cm, vena cava 0.5 cm and aorta 0.5 cm. Dorsally derived, looping, extrahepatic portosystemic shunt was noted in this patient. It appeared to direct towards azygos; however, double aorta cannot be confirmed. The shunt measured approximately 0.7 cm. The gallbladder and common bile duct were unremarkable.

**INVOICE**

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**DATE**

12/13/22



**PATIENT**

**Gastrointestinal**

Max Hu

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.

**SPECIES**

Canine

**BREED**

Shih Tzu

**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.

**SEX**

Intact male

**ULTRASONOGRAPHIC FINDINGS**

Microhepatica was noted in this patient. Extrahepatic shunt, suspect azygos shunt.

**AGE**

7 months

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**WEIGHT**

3.5 kg

CT evaluation is recommended as well as bladder and renal calculi. Concurrent liver biopsy with cystotomy and normal and retrograde urinary flushing is recommended.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

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**HOSPITAL NAME**

Beddington Trail AH

**REFERRING VET**

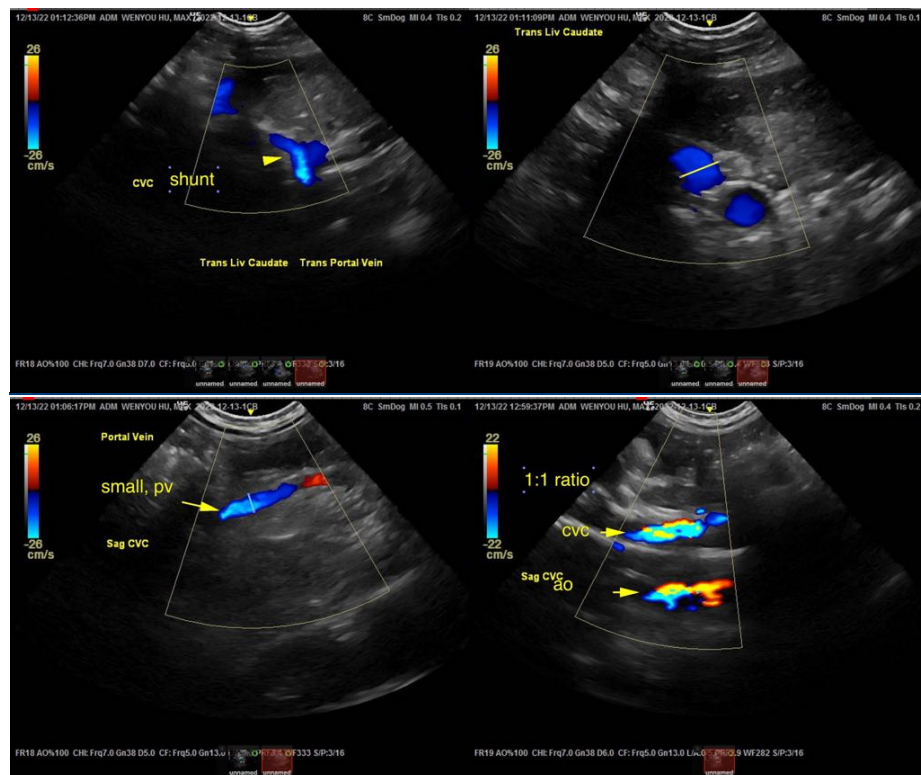
Dr. Banahur

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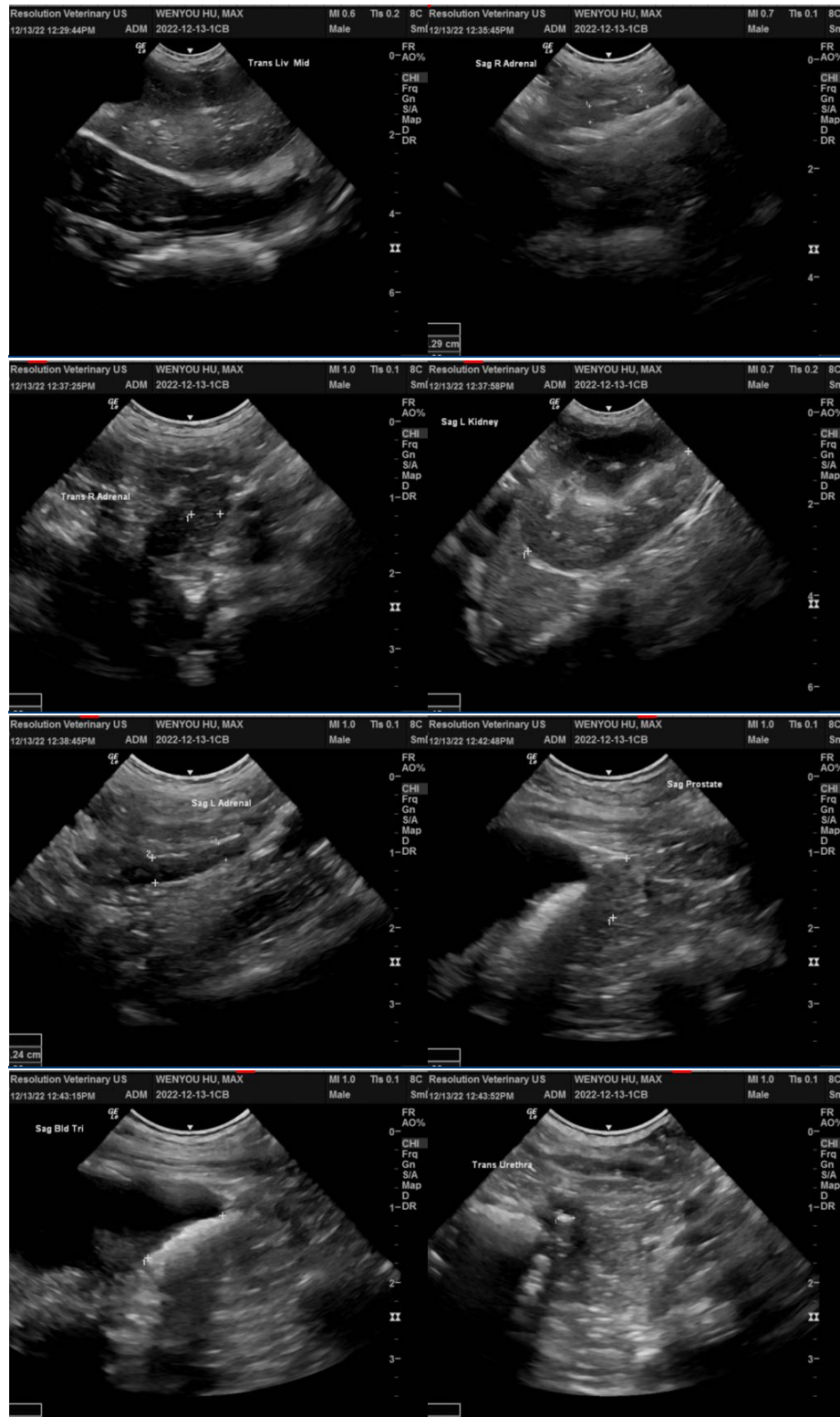
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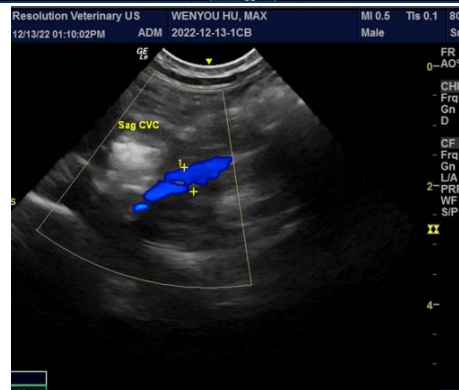
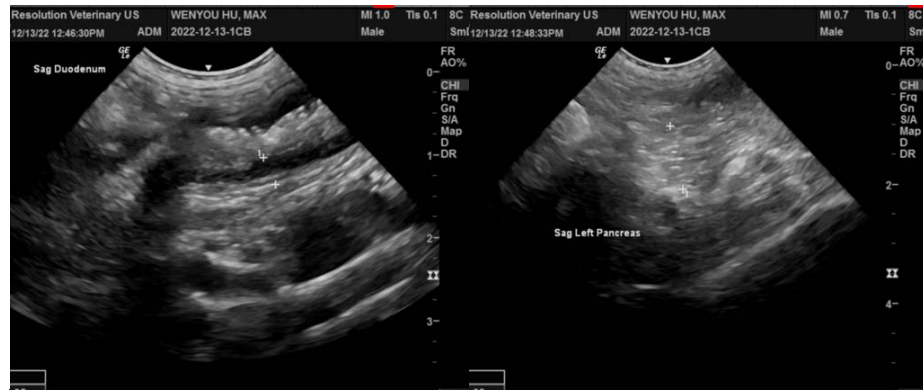
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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**  
info@SonoPath.com