



**PATIENT**

Zeba Andrews

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Spayed female

**AGE**

9 years

**WEIGHT**

20 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Amber Goldman RVT

**HOSPITAL NAME**

Appalachian VU

**REFERRING VET**

Dr. Russell

**INVOICE**

43802

**DATE**

4/11/23

**PRESENTING CLINICAL SIGNS**

History: Presented for possible weight gain, peats RC GI LF. sometimes seems uncomfortable to settle at night. no other concerns at this time, e/d norm no c/s/v/d. Dilute urine, proteinuria, very high ALP fortiflora 1/2 packet AM Famotidine 10mg 1/2 t SID Cirtozine 10mg SID

**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. Calculus was noted and measured 0.7 cm in the cystourethral junction and proximal urethra. 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. Mineralization was noted in the kidneys. The right kidney measured 4.77 cm. The left kidney measured 4.16 cm.

**Adrenal Glands**

The left adrenal gland was mildly enlarged at 0.83 cm. The right adrenal gland was enlarged and measured 1.23 cm.

**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.

**Liver**

Exam of the cranial abdomen demonstrated excessive **liver** size, swollen contour, with conserved uniform architecture. Parenchymal echogenicity was diffusely isoechoic to the spleen and falciform fat. An occasional hyperechoic nodule was noted in the liver. Minor excessive GB debris was noted with the presence gall bladder dilation and precipitate without the overt formation of mucocele but this may be an issue in the future. This type of liver presentation typically is associated with slow and gradual SAP elevations with low-grade ALT rise. USG-FNA sampling is encouraged if more aggressive LE profiles are present such as ALT > 200 or rapid rise in SAP. These presentations are usually reactive hepatopathies owing to other disease processes either endocrine (Diabetes, Hypothyroidism, Cushing's disease), "antigen surveillance" from the gut/pancreas, or idiopathic breed predisposed progressions.



**PATIENT**

Zeba Andrews

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Spayed female

**AGE**

9 years

**WEIGHT**

20 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Amber Goldman RVT

**HOSPITAL NAME**

Appalachian VU

**REFERRING VET**

Dr. Russell

**INVOICE**

43802

**DATE**

4/11/23

**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.

**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.

**ULTRASONOGRAPHIC FINDINGS**

Cystourethral junction/urethral calculus.

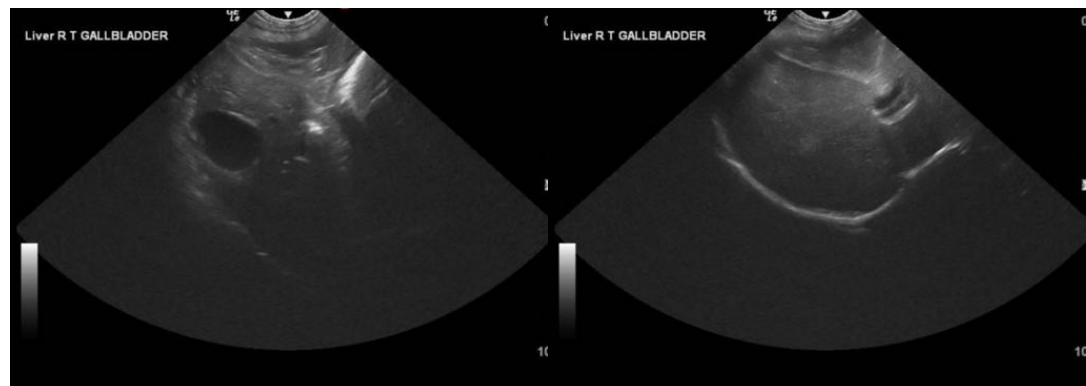
Non-obstructive nephrolithiasis with moderate degenerative renal changes.

Benign hepatopathy.

Bilateral adrenal hypertrophy, potential emerging PDH/Cushing's.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The calculus may pass in this patient. If straining to urinate is an issue then cystotomy and urethral flushing is warranted as well as calculus retrieval, yet at the time of the sonogram the calculus measured 0.7 cm and lodged in the proximal urethra. Periodic passage of calculi from the kidneys to the lower urinary tract is likely occurring. If cystotomy is to be performed then a sonogram should be performed just prior to surgery to ensure that the calculus has not moved. If isosthenuria is a persistent issue then eventual work-up for pituitary hyperadrenocorticism is warranted.





**PATIENT**

Zeba Andrews

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Spayed female

**AGE**

9 years

**WEIGHT**

20 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Amber Goldman RVT

**HOSPITAL NAME**

Appalachian VU

**REFERRING VET**

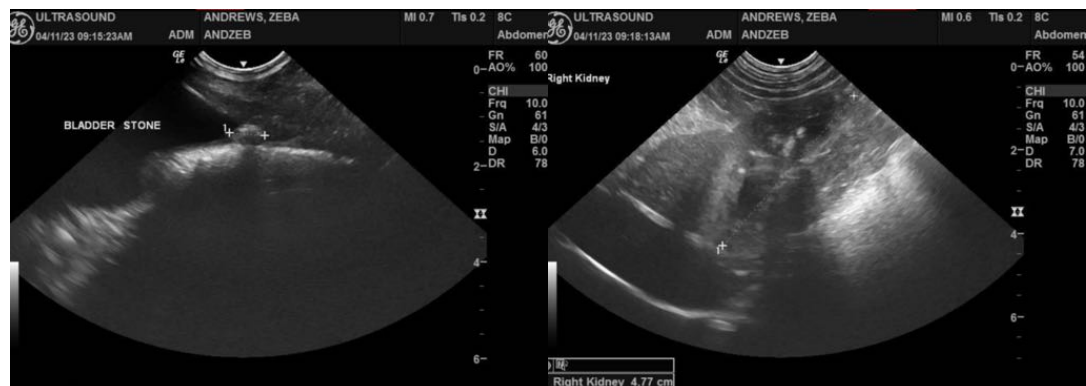
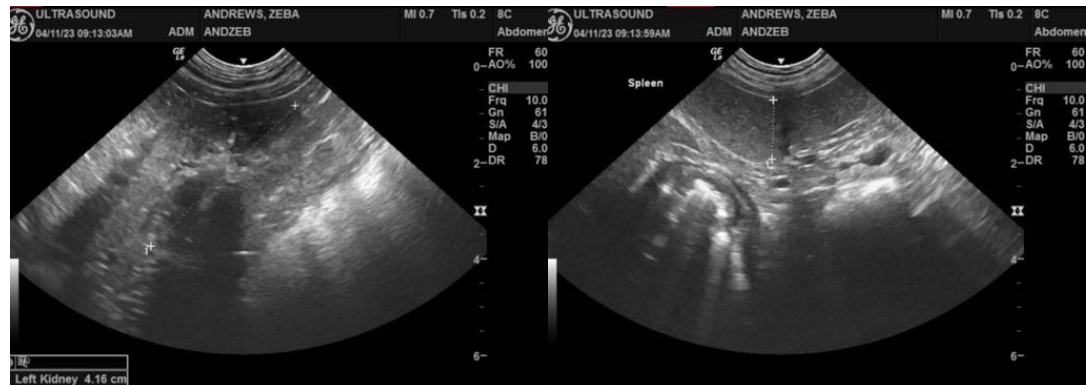
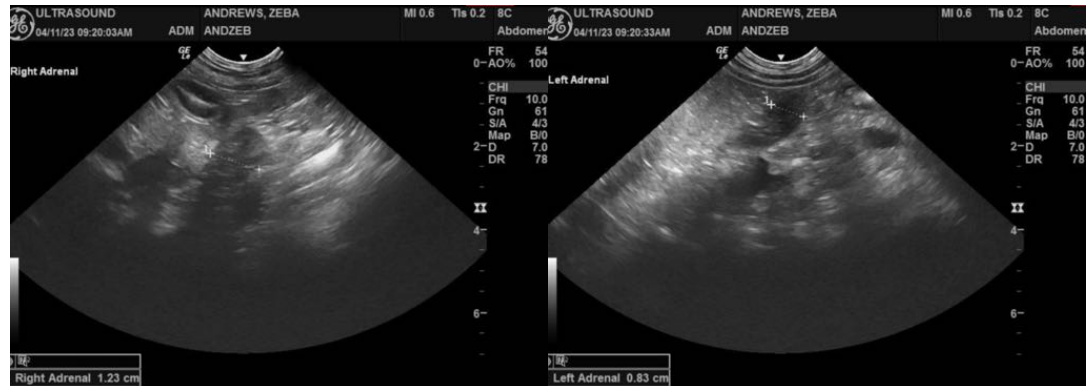
Dr. Russell

**INVOICE**

43802

**DATE**

4/11/23



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