



**PATIENT**

Levon Wood

**SPECIES**

Canine

**BREED**

Lhasa Apso Mix

**SEX**

Neutered Male

**AGE**

11 Years 5 Months

**WEIGHT**

21.4 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Kitz

**HOSPITAL NAME**

Woodlands AH

**REFERRING VET**

Dr. Danielle Kitz

**INVOICE**

15990

**DATE**

6/10/22

**PRESENTING CLINICAL SIGNS**

History: Patient presented with history of inappropriate urinations in the house, sometimes during the night while owners asleep. No uptick in water consumption noted.

Abnormal PE/Chem/CBC/UA Results: PE was unremarkable other than the patient being overweight. On labwork, his ALKP was over 1205, ALT - 161, and he had significant occult blood in his urine. An xray showed an enlarged, smooth-bordered liver that extended beyond the normal margins, and at least two irregular bladder stones within the lumen of the bladder. Recommended abdominal ultrasound and bile acids/clotting profile prior to general anesthesia for bladder stone removal; also discussed if no obvious cause for liver enzyme elevation observed on ultrasound, we could consider wedge biopsy of the liver while in the abdomen for the cystotomy.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The **urinary bladder** presented sand and multiple calculi. The calculi were nonobstructive at the time of the sonogram, the largest of which measured approximately 1.5 cm. A trace amount of urethral sand was noted. Apical ventral and apical dorsal wall thickening were present. No evidence of masses. This change is most consistent with chronic cystitis. A particular apical polyp was noted in the urinary bladder. The polypoid changes measured approximately 1.0 cm. An underlying urachal remnant may be present with secondary proliferative tissue owing to chronic cystitis.

The **prostate** was uniform, measuring 1.0 cm. No evidence of pathology.

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. Slight mineralization was present. Renal calculi were noted, nonobstructive. The left kidney measured 5.2 cm. The right kidney measured 5.2 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 left adrenal gland measured 0.47 cm. The right adrenal gland measured 0.44 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 were noted.

**Liver**

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary



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tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

## SPECIES

Canine

## 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.

## BREED

Lhasa Apso Mix

## 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

Neutered Male

## ULTRASONOGRAPHIC FINDINGS

## AGE

11 Years 5 Months

- Chronic cystitis bladder pattern with nonobstructive bladder calculi
- Age-related renal changes with nonobstructive calculi

## WEIGHT

21.4 Pounds

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the chronic changes of the cranial third of the urinary bladder, resection of the apex of the bladder would likely be in this patients best interest. Cystotomy, normal and retrograde flushing, apical bladder wall resection, histopathology and culture indicated. Very minor potential for underlying carcinoma yet cannot be completely ruled out, but not suspected.

## INTERPRETED BY

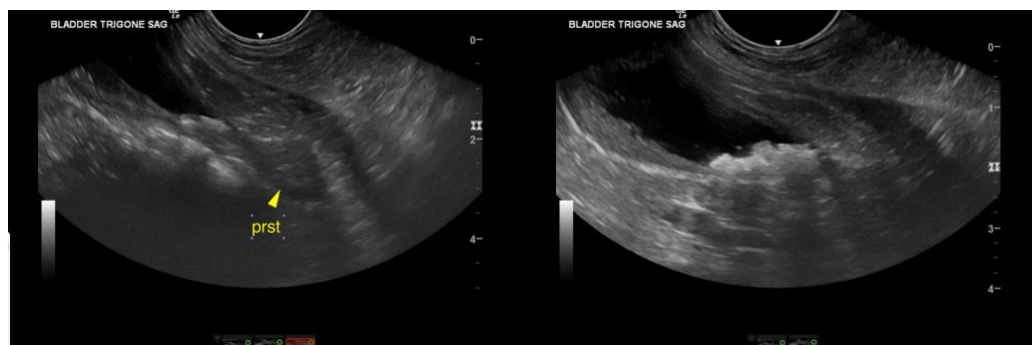
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## IMAGING PERFORMED BY

Dr. Kitz

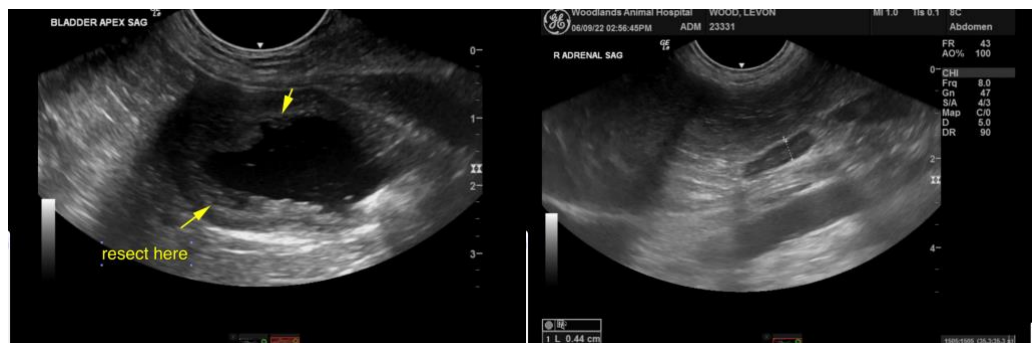
## HOSPITAL NAME

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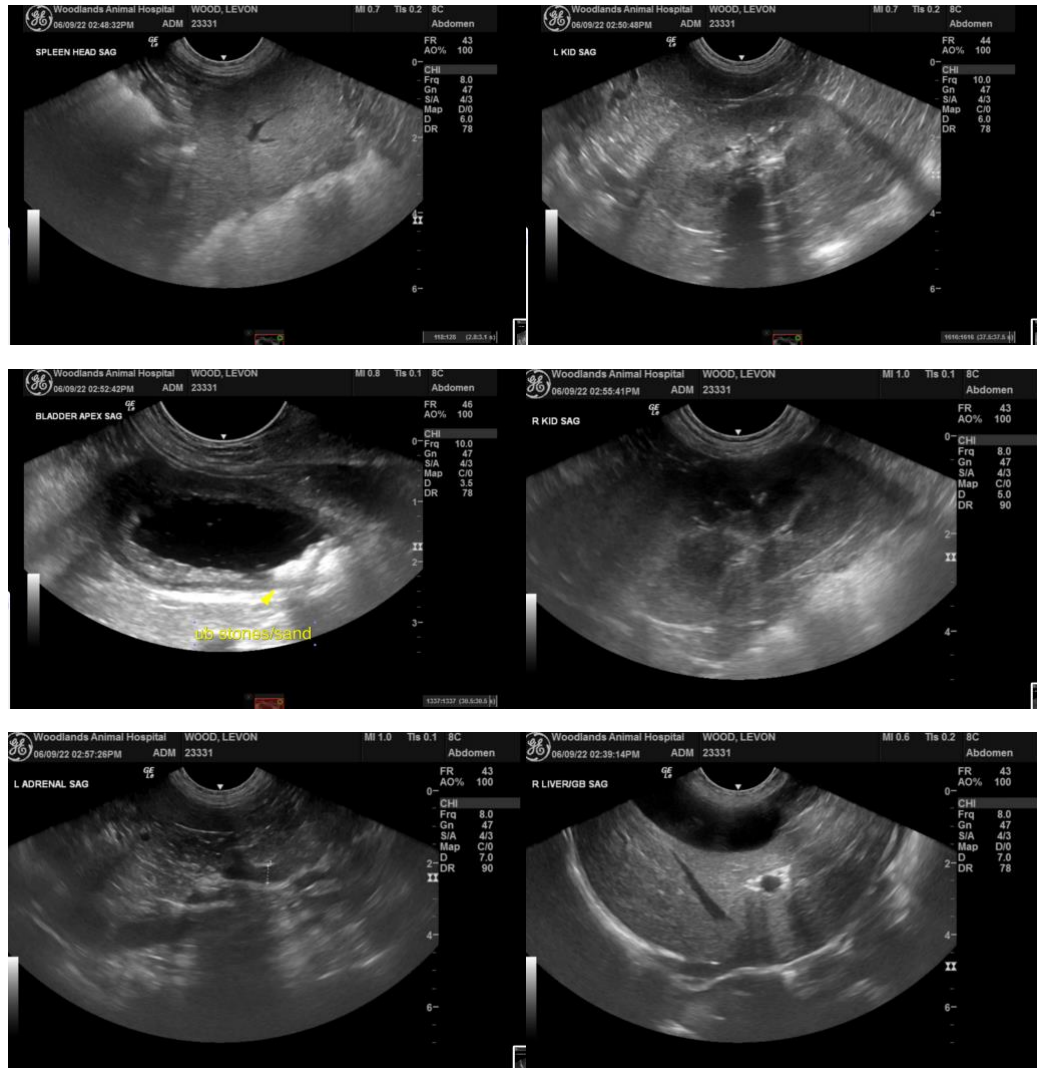
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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  
info@SonoPath.com