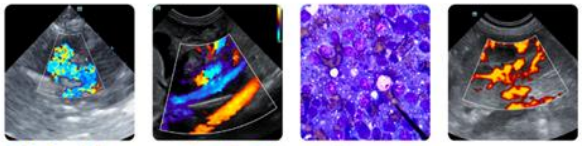

PATIENT

Lyah Zue Rivera

SPECIES

Canine

BREED

Maltese

SEX

FS

AGE

13yr

WEIGHT

10lb

INTERPRETED BY

Dr Brittany Sinclair, BVSc(hons), DACVECC

IMAGING PERFORMED BY

Dr. Gabriel Ferrer DVM

HOSPITAL NAME

Pulse Pet Ultrasound Services

REFERRING VET

Dr. Milton Bird

INVOICE

23122

DATE

12/5/2025

PRESENTING CLINICAL SIGNS

Presented as a referral for a dual cavity study, Echocardiogram and abdominal ultrasound to evaluate cardiomegaly and enlarged liver. Pt has previous hx of pancreatitis July 2025. Pt is currently taking Enalapril 2.5mg BID which was started 2 days ago.

Abnormal PE/Chem/CBC/UA Results: Bloodwork and Radiograph attached as supporting documents. Blood Pressure: Dia: 129, Sys: 100 MAP: 106 HR: 88 Left lateral RF Cuff #2

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, and visible pelvic urethra were of normal thickness. The ureters were not visible which is normal. There was normal wall layering with no masses, or abnormal thickening visualized. There was gravity-dependent hyperechoic shadowing somewhat amorphous debris present concerning for a cystolith vs urinary bladder sand.

The kidneys were both normal size and structure, with smooth capsule and normal corticomedullary definition and ratio (cortex 1/3 of medulla). Medullary structure differed distinctly from that of the cortex. No evidence of pelvic dilation was present. Bilateral hyperechoic, shadowing foci present in renal parenchyma and calyces consistent with nephrocalcinosis. The right kidney measured 4.15 cm. The left kidney measured 3.87 cm.

Adrenal Glands

The right adrenal gland was 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 is generally normal in size and shape. The cranial pole contains a hypoechoic nodule, measuring 0.47 by 0.36 cm. The left adrenal gland measured 1.93 cm in length and 0.52 cm at the cranial pole and 0.34 cm at the caudal pole. The right adrenal gland measured 0.49 cm at the cranial pole and 0.51 cm at the caudal pole.

Spleen

The spleen was normal with a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma and smooth capsule, with normal splenic vasculature with no signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarct changes were noted.

Liver

The liver is subjectively enlarged with rounded borders. The parenchyma is heterogenous with a coarse appearance. Subtle, relatively small hypoechoic nodules visualized, no specific masses were seen. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed. The gall bladder is moderately distended with anechoic fluid, with hyperechoic non-shadowing gravity dependent debris present. There is no surrounding free fluid or signs of active inflammation.

Gastrointestinal

The stomach contains a small volume of fluid. It measures at a normal thickness of with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed. The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid

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distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis: mucosa layer ratio. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed. The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The base and limbs of the pancreas were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour and parenchyma were normal. No overt evidence of active inflammatory or neoplastic disease was noted.

Lymph Nodes

No clinically significant lymphadenopathy or abnormalities noted.

Free Abdomen

No masses or free fluid were noted.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Hepatomegaly with slightly coarse echo texture and poorly defined nodules
- Gallbladder debris
- Renal nephrocalcinosis
- Urinary bladder cystolith vs urinary bladder sand
- Left adrenal nodule

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The adrenal nodule may be hormonally active or may be non-secretory. Testing for hypercortisolemia should be considered.

Liver changes are a common benign age related change, but infiltrative disease (lymphoma, MCT, other) cannot be definitively ruled out. No significant disruption of architecture noted to suggest significant pathology. Fine needle aspirate could be considered to further characterize parenchymal changes if clinically indicated, especially if any weight loss is noted or for baseline cytological assessment.

Urinary bladder cystoliths may lodge in the urethra causing obstruction, with male pets carrying a higher risk due to smaller urethral size. They may also act as a nidus of infection and inflammation. Dissolution diets (hills c/d, royal canin urinary S/O, purina proplan UR, etc.) may be tried if struvite stones are suspected with serial imaging used to monitor progress. If small enough in relation to patient size, urohydropulsion under general anesthesia may successfully remove stones. Surgical removal of stones should be considered if risk of urethral obstruction is unacceptable or dietary therapy is not successful. Cystoscopy removal of stones, with or without lithotripsy may be considered if locally available. A flexible cystoscope is required for male dogs. Calcium oxalate, struvite, urate, and cystine stones are all susceptible to laser lithotripsy. Some dogs are not considered good candidates for laser lithotripsy including:

1. Male dogs less than 15 pounds: The endoscope may be too large to traverse the urethra.

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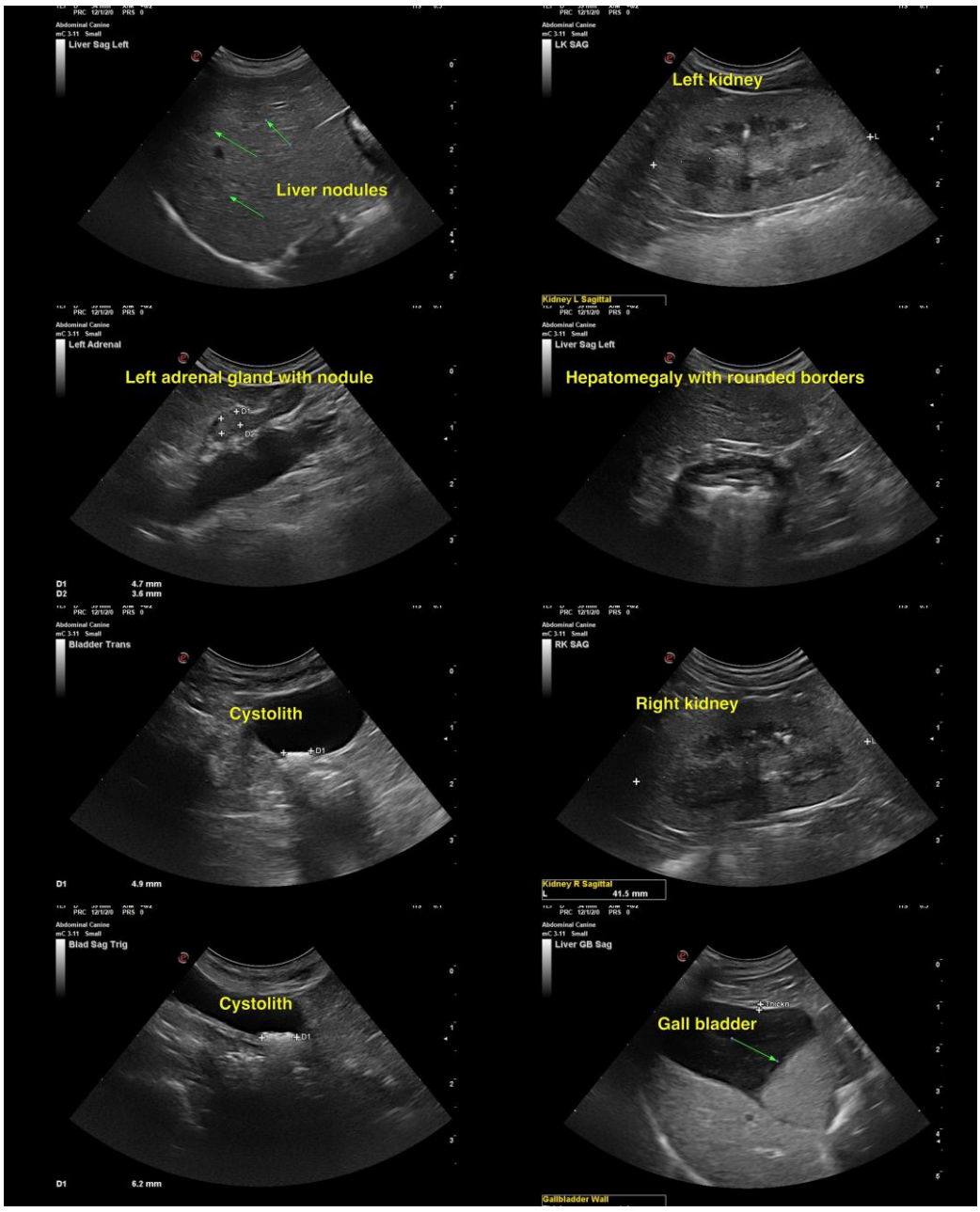
2. Male dogs with more than two bladder stones greater than 5 mm in diameter (depending on the size of the dog)
3. Female dogs whose entire bladder is full of stones greater than 5 mm in diameter
4. Dogs with uncontrolled urinary tract infection: Once infection is controlled, lithotripsy can be considered.



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.

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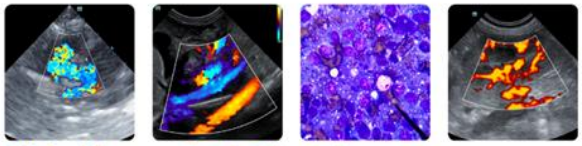

Clinical Sonography & Telecytology
Educational Teleconsultation Services™

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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.

Dr Brittany Sinclair, BVSc(hons), DACVECC
info@SonoPath.com