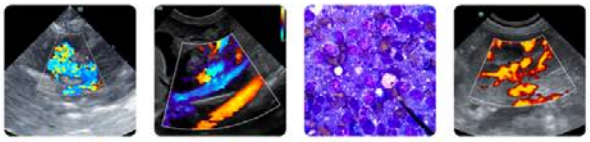

PATIENT

Kira Zhang

SPECIES

Canine

BREED

Bichon Frise

SEX

Spayed Female

AGE

12 Years

WEIGHT

15.2

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Dr. Sandra Jimenez

HOSPITAL NAME

Bramer Animal Hospital

REFERRING VET

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INVOICE

75108

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PRESENTING CLINICAL SIGNS

Collapse episode occurred last on April 27 where she was seen to reverse sneeze then stiffens and urinates. Kira has had one another episode earlier this year in Jan-Feb time. Kira is diagnosed with ACVIM stage B2 degenerative valve disease (echo and ECG 2/12/26). Abdominal ultrasound previously performed in 10/30/25.

Abnormal PE/Chem/CBC/UA Results: 7/8/25: ALT 118 (18-121), ALP 204 (5-160), Cholesterol 493 (131-345) 10/30/25 Abd ultrasound(sonopath):Hepatomegaly exhibiting nonhomogenous hyperechoic subtle hypoechoic nodular parenchyma, Nonobstructive choleoliths, Bilateral adrenomegaly, Chronic renal changes exhibiting suspect cortical microinfarction, Benign splenic nodule- consistent with myelolipoma or mineralization. 4/27/26 Exam: heart murmur grade 4/6 4/27/26 CBC/Chem/T4: SDMA 15 (0-14), Potassium 5.5 (4-5.4), Na:K ratio 27 (28-37), ALT 168 (18-121), ALP 319 (5-160), Cholesterol 394 (131-345), USG 1.011 4/27/26 thoracic rads (compared to 2025): tracheal collapse (prev observed), hepatomegaly (prev observed), no evidence of congestive heart failure or abnormalities throughout the lung field

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is adequately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Kidneys are bilaterally irregular and diffusely echogenic with decreased corticomedullary distinction and poor visualization of internal architecture. There is no pyelectasia noted and no mineral is observed. Left kidney measures small-normal at 4.2 cm. Right kidney is normal in size at 4.6 cm. Multiple small chronic infarcts are present bilaterally.

Adrenal Glands

The right adrenal gland is plump/swollen in size, measuring 1.0 cm at the cranial pole and 0.90 cm at the caudal pole. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

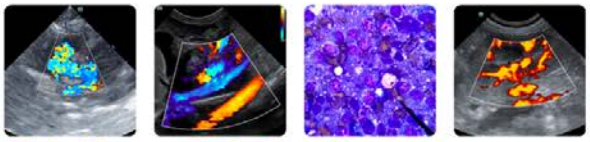
The left adrenal gland is normal in size (0.64 cm at cranial pole and 0.65 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Spleen

Spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). Multifocal well-demarcated hyperechoic homogenous nodules are noted. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is markedly heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.



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The gallbladder is non-distended in size. The wall of the gallbladder appears as a thin hyperechoic/calcified rim casting a distinct distal acoustic shadow. Luminal contents are primarily anechoic in addition to at least two non-visibly obstructive shadowing cholecystoliths measuring between 0.7-0.8 cm in size. There is no evidence of cystic or common bile duct dilation.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreas that is observed appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no visible free peritoneal effusion noted in these images.

There is no apparent pathologic lymphadenopathy noted in these images.

PRIMARY FINDINGS

- The markedly heterogeneous liver is similar in appearance to the previous study and could represent a benign process such as marked nodular hyperplasia, steroid or vacuolar hepatopathy, extramedullary hematopoiesis, chronic inflammatory disease, other, although infiltrative neoplasia such as round cell neoplasia or even metastatic disease, while thought less likely given the lack of progression, can't be ruled out without tissue sampling.
- Non-visibly obstructive cholecystoliths (unchanged).
- Mildly plump right adrenal gland (unchanged).
- Bilateral chronic kidney disease changes (unchanged).

SECONDARY FINDINGS

- Hyperechoic splenic nodules (unchanged) – most consistent with benign myelolipomas. Other differentials such as fibrosis or calcification caused by old hematomas or infarcts, chronic inflammation, granulomatous disease or metastatic disease cannot be ruled out, but are considered less likely.

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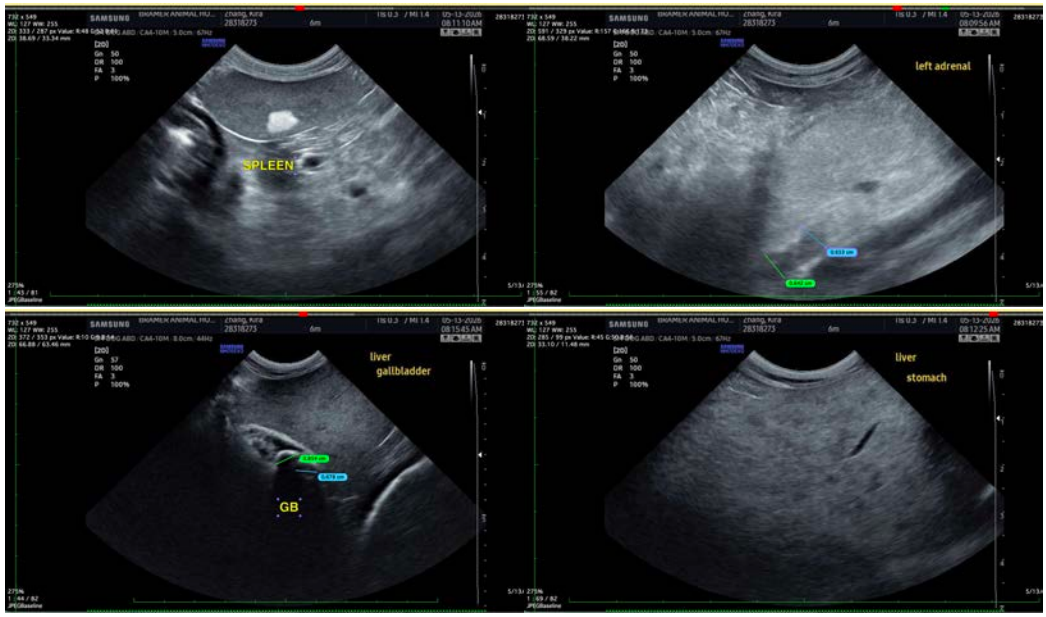
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The appearance of this study is largely static to previous exam. There is not a definitive intraabdominal ultrasonographically visible explanation for patient's reported intermittent collapse, but given that history, additional recommendations include:

- A blood pressure if not recently evaluated.
- An echocardiogram could be considered.
- Given the mildly progressive ALT combined with possible neurologic signs, bile acids could be considered if patient's total bilirubin is not increased.
- More advanced neurologic evaluation including consultation with a veterinary neurologist and/or advanced imaging such as an MRI could also be considered.
- While hypoadrenocorticism is not typical with large adrenal glands, given the collapse, the sodium to potassium ratio, etc., a baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.
- If not recently evaluated, three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.
- If not previously evaluated, fine needle aspirates of the liver could be considered if patient's coagulation status is appropriate.
- Other than supportive/symptomatic medical management of clinical signs, further treatment recommendations are largely dependent on results of the above.



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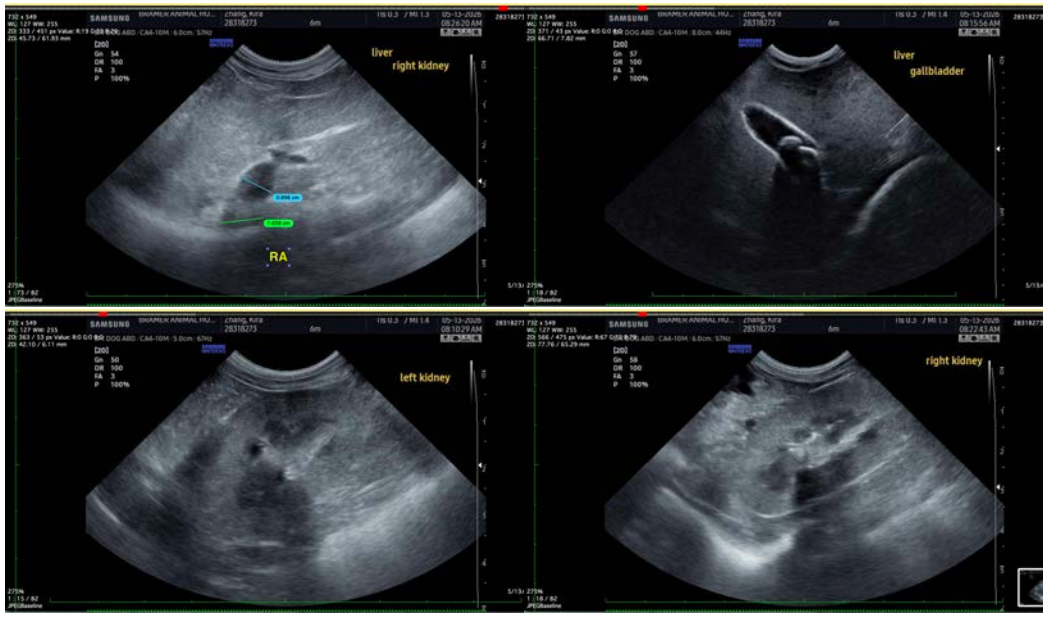

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
info@sonopath.com