

## PATIENT PRESENTING CLINICAL SIGNS

Brodie Bowen

### SPECIES

Canine

### BREED

Shetland Sheepdog

### SEX

Male, neutered

### AGE

11 Yrs.

### WEIGHT

9.6 kg.

### INTERPRETED BY

Andrea Nicastro, DVM,  
Diplomate ACVIM  
(Small Animal Internal  
Medicine)

### IMAGING PERFORMED BY

Loetitia Saint-Jacques,  
LVT

### HOSPITAL NAME

Advanced PetCare of  
Nevada

### REFERRING VET

Dr. Hazelwood

### INVOICE

14628

### DATE

2/21/23

History: Brodie was on Carprofen and Proin for several years for incontinence and OA/Carpal valgus. Labwork has been stable monitored ~6 months. Slowly increasing ALT though still in normal range until 1/5/2023 with mild increase at 148 (ref interval 10-125). BUN was also 1 point above normal at 28 at this time; glucose, creatinine, ALP, proteins). P had lost mild amount of weight at this time oo - ~1.2 pounds, but had been on Hills Metabolic for years. Exam otherwise normal with exception of likely benign palpebral mass and chronic carpal varus and OA. We stopped Carprofen and switched to Galliprant. Recheck complete labwork on 2/8/2023 - mild reticulocytosis, mild thrombocytosis, ALT now at 207 (reference interval 18-121), BUN high-end normal at 31 (reference interval 9-31) with normal SDMA and creatinine. USG was 1.012 - asked for O to bring first morning urine sample to test concentration. Otherwise normal labwork. Recommended ultrasound mainly to ensure no obvious structural liver disease/renal disease. Clinically, he is doing well. He is scheduled for eyelid mass removal on Thursday if ultrasound results are received.

Abnormal PE/Chem/CBC/UA Results: MEDS: Proin 18 mg q24 hrs (decreased from 38 mg few weeks ago); Galliprant 20 mg mid-Feb. Blood Pressure: 120. ECG Sinus Arrhythmia

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The urinary bladder is moderately distended. In the region of the trigone, a 1.05 cm irregular echogenic structure is observed along the mucosal surface. The remaining urinary bladder wall is normal in thickness with a smooth mucosal surface. No cystic calculi are observed. The visible portion of the proximal urethra is normal.

The prostate is not definitively visualized due to its pelvic location.

The left kidney is normal size (4.56 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

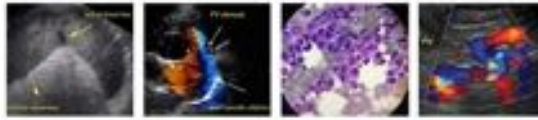
The right kidney is normal size (4.77 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

### Adrenal Glands

The left adrenal gland is normal size (0.78 cm at cranial pole) (0.57 cm at caudal pole); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is normal size (0.39 cm at cranial pole) (0.62 cm at caudal pole); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

### Spleen



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The spleen is normal in size (1.65 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

### *Liver*

The liver is subjectively normal to slightly prominent in size with normal curvilinear peripheral contours. The parenchyma is echogenic relative to the spleen. 3 hyperechoic nodules are observed, the largest measuring 2.23 cm in diameter. The remaining parenchyma is homogeneous. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is thin and smooth. A moderate amount of mostly gravity-dependent echogenic to mineralized debris is observed within the lumen. The cystic and common bile ducts are normal/not seen.

### *Gastrointestinal*

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The ileocecolic junction and colonic wall are normal. No obstructive disease is noted.

### *Pancreas*

The region of the pancreas is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

### *Free Abdomen*

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

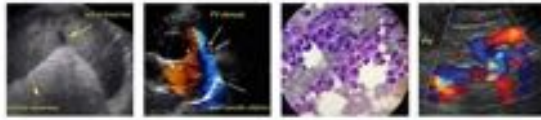
## ULTRASONOGRAPHIC FINDINGS

### Primary Findings:

- The hyperechoic hepatic nodules trend toward the benign (i.e., regenerative nodules) with a lower possibility of more insidious pathology (i.e., tumors, inflammatory foci). An obvious cause for the patient's elevated ALT is not definitively identified in this study. Considerations include microscopic hepatopathy (i.e., chronic hepatitis, bacterial cholangiohepatitis, hepatotoxicosis (i.e., copper), fibrosis) or a reactive hepatopathy.
- The echogenic structure in the urinary bladder in the region of the trigone may represent emerging tumor (i.e., transitional cell carcinoma), inflammatory lesion or adhered debris.

### Secondary Findings:

- Mild bilateral, age-related renal changes.



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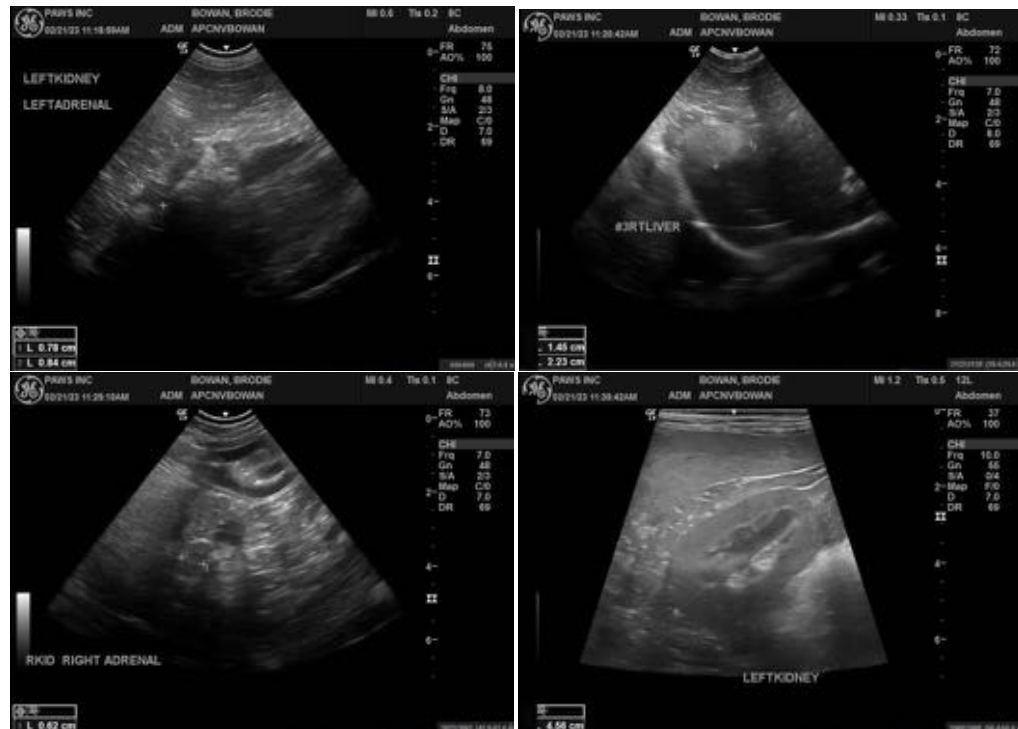
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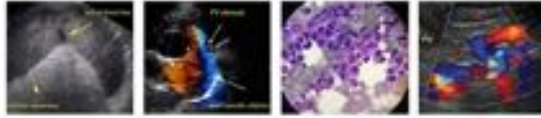
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- Regarding the urinary bladder lesion, consider the following:
  1. Urine BRAF test to further assess for lower urinary tract neoplasia. A positive test confirms a diagnosis of neoplasia. However, a negative test does not completely rule out the possibility of cancer.
  2. Urinalysis with culture and sensitivity.
  
- Regarding the elevated ALT, the following can be considered:
  1. Pre and post prandial serum bile acids.
  2. Leptospirosis testing, although this differential is considered less likely given the chronicity of the liver enzyme elevation.
  3. Hepatic tissue sampling (i.e., fine needle aspirate or biopsies (i.e., laparoscopic or surgical)). If biopsies are pursued, aerobic and anaerobic bile cultures should be obtained and copper quantitation should be performed on hepatic tissue samples. If hepatic tissue sampling is not pursued at this time and the patient is to undergo anesthesia for the eyelid mass removal, benzodiazepines should be avoided and opioids should be used judiciously.





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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.

Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)

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