



PATIENT

Sadie Stobbart

SPECIES

Canine

BREED

Pit Bull X

SEX

Spayed Female

AGE

WEIGHT

40.8 kg

INTERPRETED BY

Kathleen Sennello DVM,
MS, Diplomate ACVIM
(Small Animal Internal
Medicine)

IMAGING PERFORMED BY

Dr. Brian Barnes

HOSPITAL NAME

Westview Vet Hospital

REFERRING VET

Dr. Brian Barnes

INVOICE

45419

DATE

2/22/23

PRESENTING CLINICAL SIGNS

History of hepatopathy. R/C AUS

Abnormal PE/Chem/CBC/UA Results: R/C AUS Blood Aug 2022 CBC: WNL Chem: ALT 146 (N 10-125) ALKP 1901 (N 23-212) Lipa 4429 (N 200-1800) SDMA 6 (N 0-140) TT4 24 (N 13-51) Xrays Aug 2022: • Hepatopathy exhibiting nonhomogeneous nonuniform parenchyma - subjectively benign • Mild heterogeneous pancreas - no evidence of sonographically active pancreatitis • Bilateral mild chronic renal changes

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall largely appears normal, but in the mid dorsal aspect of the urinary bladder, there is a focal, slightly irregular mass effect visualized measuring 1.33 cm x 3.1 cm, most concerning for a focal bladder mass lesion. Blood flow on power doppler is relatively mild, so an accumulation of debris/adhered debris (such as clot, etc.) cannot be ruled out, but a true mass effect such as a transitional cell carcinoma is the primary differential. The region of the trigone, proximal urethra, and ureteral papillae appear free of any mass lesions or calculi.

The left kidney has a normal shape and size (7.84 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (8.28 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.73 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.63 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is large in size, and hyperechoic with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.



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The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

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Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm 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.

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The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.)

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Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

AGE

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.

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Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

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PRIMARY FINDINGS

- Focal irregular mass effect in the urinary bladder – The primary differential is a transitional cell carcinoma, although other differentials such as clot, adhered debris, etc. are possible. Consider a traumatic catheterization and recommend a urinalysis and culture.
- Large, hyperechoic, heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.

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SECONDARY FINDINGS

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver is large, hyperechoic, and heterogeneous. These changes are likely most consistent with a vacuolar hepatopathy. No focal lesions are visible. The gallbladder appears normal. These are my recommendations for further evaluation of a primary ALP elevation:



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- Induction phenomena are the most common cause for an elevation in ALP. These are systemic illnesses that 'turn on' the liver enzyme. Causes of this include Cushing's disease, dental disease, arthritis, and numerous others. In many cases the exact cause is unclear but as long as ultrasound and bile acids tests are normal most patients do not have progressive changes in their liver. While liver biopsy is not routinely performed, vacuolar hepatopathy, is noted on most biopsies. This is often non-progressive but in rare cases can be more severe and lead to liver failure.
- If signs of cushings disease are present recommend endocrine function testing to evaluate for cushings disease.
- Consider fine needle aspirate to rule out round cell neoplasia -if this is a concern.
- If a cause for the ALP elevation is not identified: I recommend recheck general blood work every 6 months, ultrasound once per year, and bile acids test every 1-2 years based on other results. If the ALP continues to climb a biopsy could be considered.
- Consider long term use of denamarin, and monitoring for the signs of cushings developing.
- A primary vacuolar hepatopathy can be breed related and is seen in Scottish Terriers, Schnauzers, Cocker spaniels etc..

There is a focal lesion visualized associated with the bladder wall. This is concerning for a primary bladder mass such as a transitional cell carcinoma, although other differentials are possible. Consider a traumatic catheterization to obtain a sample for cytologic evaluation. Additionally, recommend a urinalysis and culture. If this is not possible, consider cystoscopy. Additionally, you could consider a urine BRAF test. If this test was positive, it would increase the likelihood that this is a transitional cell carcinoma. If it is negative, the test is non-diagnostic, and additional evaluation would be necessary.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.





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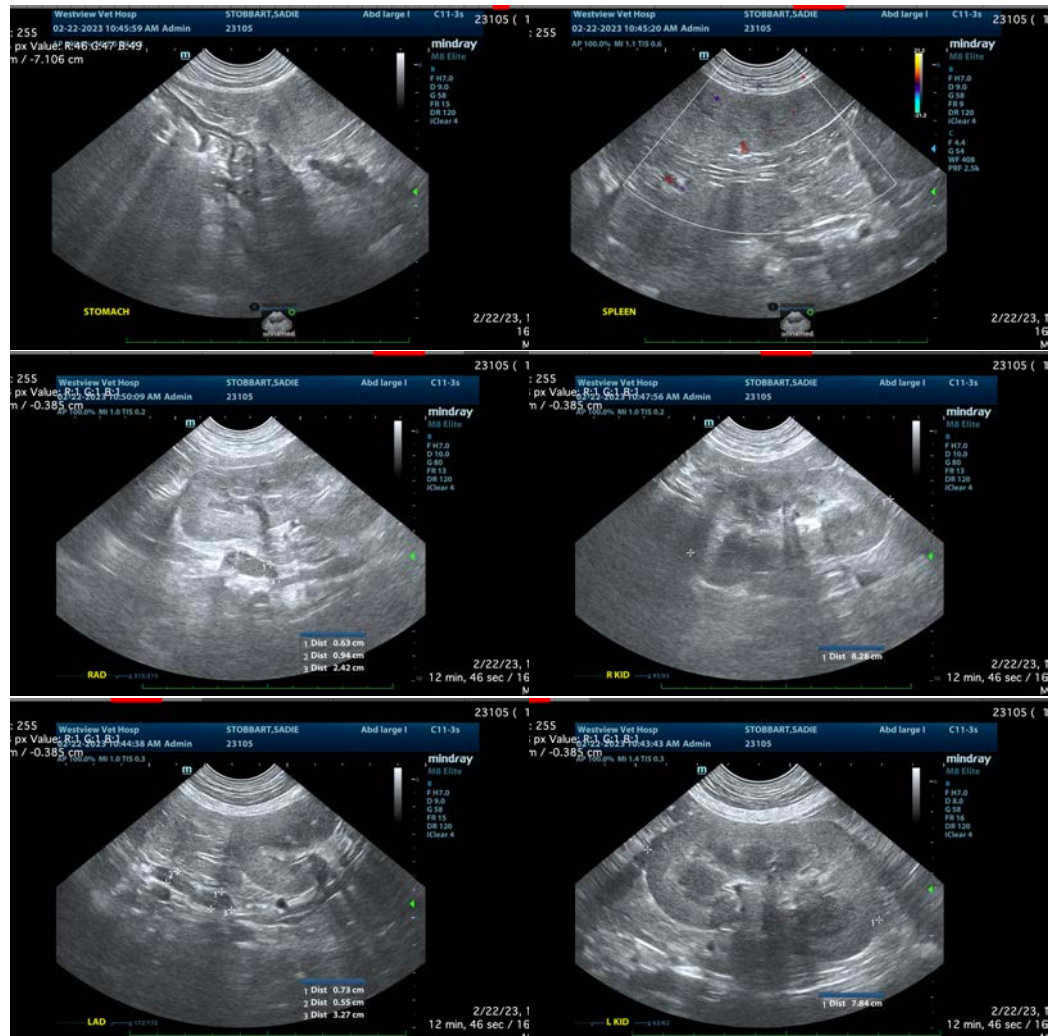
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

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