



PATIENT

Chance Kuzmak

PRESENTING CLINICAL SIGNS

History: Patient presents for elevated liver enzymes. Current med: SAME.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

BREED

Mix

Urinary bladder lumen volume is small and walls are diffusely thickened most consistent with pseudohypertrophy. The ureters were not visible which is normal. There was normal wall layering with no masses, uroliths or abnormal thickening visualized. Urine was anechoic. No evidence of inflammatory or neoplastic changes were noted.

SEX

Neutered male

The visible prostate is normal in size has uniform echotexture with no fluid accumulations, masses or other abnormalities

AGE

10 years

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. The right kidney measured 6.09 cm. The left kidney measured 5.67 cm.

WEIGHT

50.3 lbs

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 2.2 cm in length and 0.58 cm at the cranial pole and 0.62 cm at the caudal pole. The right adrenal gland measured 2.4 cm in length and 1.1 cm at the cranial pole and 0.69 cm at the caudal pole.

INTERPRETED BY

Dr Brittany Sinclair, BVSc(hons), DACVECC

IMAGING PERFORMED BY

Kelly Vazquez, CVT

HOSPITAL NAME

Companion AH

Spleen

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

REFERRING VET

Dr. Tsai

Liver

The liver is subjectively normal in size with normal contours and structure. The parenchyma is slightly heterogenous with a coarse appearance. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed.

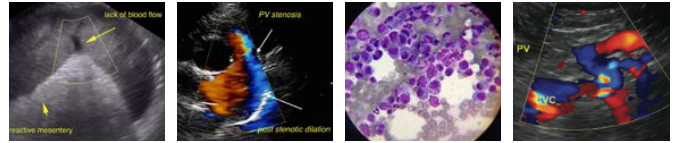
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The gall bladder is moderately distended with anechoic fluid, with hyperechoic non-shadowing debris present. There is no surrounding free fluid or signs of active inflammation.

DATE

3/7/23



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Gastrointestinal

The stomach contains minimal luminal contents. 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 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

1. Coarse liver parenchyma
2. Gall bladder debris
3. Perivascular splenic myelolipomas
4. Urinary bladder wall pseudohypertrophy

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Liver changes and gall bladder debris are a common benign age related change, but infiltrative disease (lymphoma, MCT, other) cannot be definitively ruled out. In the face of elevated liver enzymes, fine needle aspirate is recommended to further characterize parenchymal changes, and bile acid profile to assess liver function, especially if any weight loss is noted or for baseline cytological assessment. Ultimately liver biopsy is often required for more definitive diagnosis. Empiric treatments (SAM-E, milk thistle, Vitamin E, ursodiol if bilirubin elevated or gall bladder sludge) could be tried and liver enzymes re-evaluated, especially if liver FNA does not show significant pathology before more invasive liver sampling is pursued. If liver supportive medications do not improve liver enzymes, a course of empiric antibiotics (clavamox, enrofloxacin) could be considered to cover for infectious cholangiohepatitis, though the lack of surrounding inflammation makes this less likely. Imaging should be rechecked on a



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routine basis for monitoring (q3-6mo) or if further significant increase in liver enzymes and/or new clinical signs are noted. If otherwise clinically indicated, investigation for endocrinopathy such as hyperadrenocorticism or hypothyroidism could be considered as an underlying cause predisposing to gall bladder debris accumulation.

SPECIES

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Splenic changes are a common age related change and are most consistent with benign myelolipomas, 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.

BREED

Mix

Urinary bladder wall thickening is likely pseudohypertrophy secondary to low volume of urine and lack of luminal distension, however, true mural thickening cannot be definitively ruled out. Re-examination when urinary bladder lumen volume is increased with time and/or fluid therapy should be considered if clinical suspicion for urinary bladder disease is high.

SEX

Neutered male

AGE

10 years

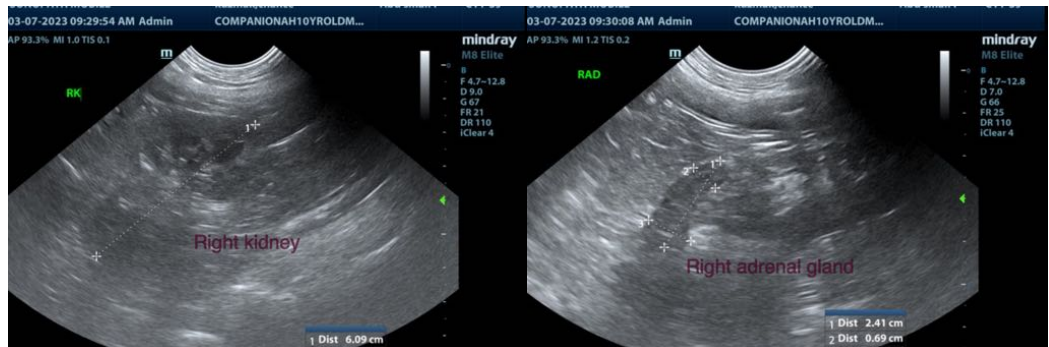
WEIGHT

50.3 lbs



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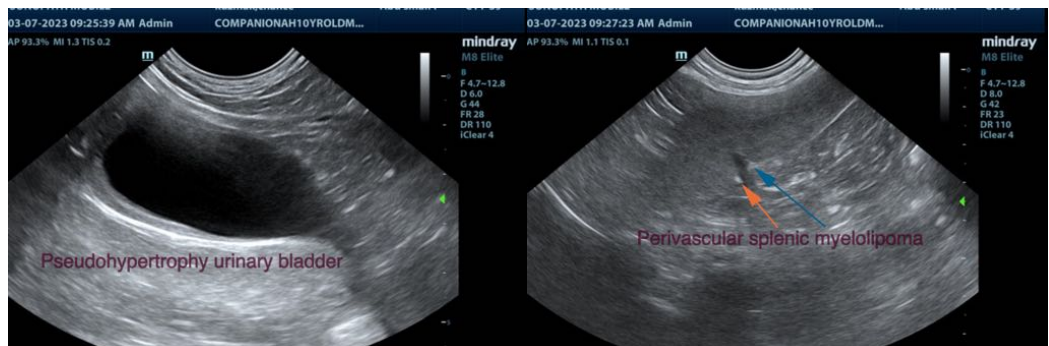


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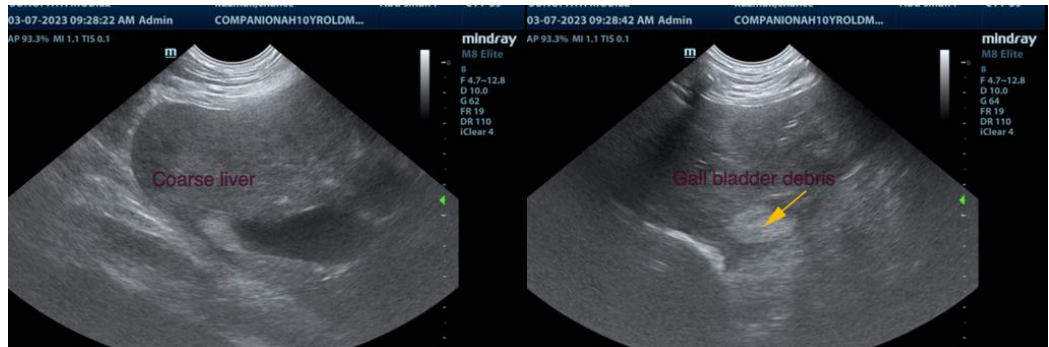
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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