

PATIENT

Copper Morgan

SPECIES

Canine

BREED

Mixed Breed/Hound
Mix

SEX

Neutered Male

AGE

9 Years 7 Months

WEIGHT

56 Pounds

INTERPRETED BY

Dr Brittany Sinclair,
BVSc(hons), DACVECC

**IMAGING
PERFORMED BY**

Ashley Whitesell

HOSPITAL NAME

Dickson AC

REFERRING VET

Ashley Whitesell

INVOICE

22417

DATE

5/9/23

PRESENTING CLINICAL SIGNS

History: pu/pd not acting right, increase in appetite, exercise intolerance, licking lips more

Abnormal PE/Chem/CBC/UA Results: alt 155; 1187 alk phos; USG 1003

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, uroliths or abnormal thickening visualized. Urine was anechoic. No evidence of inflammatory or neoplastic changes were noted.

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 6.36 cm. The left kidney measured 5.9 cm.

Adrenal Glands

Both adrenal glands were visualized and recognized. Right adrenal gland was enlarged and hypoechoic with a prominent caudal pole. No specific masses or nodules were visualized. Right adrenal gland was comparatively normal in size and echogenicity. The phrenic vasculature, glandular echogenicity and detail were unremarkable. The left adrenal gland measured 2.4 cm in length and 0.68 cm at the cranial pole and 0.71 cm at the caudal pole. The right adrenal gland measured 2.66 cm in length x 1.19 cm at the cranial pole and 0.88 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

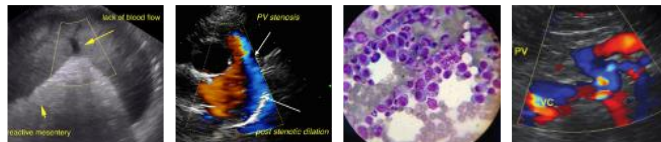
The liver is subjectively normal in size to mildly enlarged with slightly rounded lobes and normal structure. The parenchyma is slightly heterogenous with a coarse appearance. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed.

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.

Gastrointestinal

The stomach contains gas shadowing obstructing visualization of 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



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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.

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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 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.

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Lymph Nodes

No clinically significant lymphadenopathy or abnormalities noted.

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Free Abdomen

No masses or free fluid.

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ULTRASONOGRAPHIC FINDINGS

- Prominent right adrenal gland
- Mild hepatomegaly, coarse parenchyma
- Normal bladder and kidneys

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Normal bladder and kidneys with lack of azotemia suggests a non-renal cause of PU/PD.

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Right adrenomegaly is mild, but given corresponding clinical signs, could be secondary to hormonal stimulation as is seen with hyperadrenocorticism. It may also represent a variation of normal or response to stressful illness, though bilateral enlargement is more likely in that case. While no distinct adrenal mass was visualized, the more normal size of the right adrenal gland is suggestive of adrenal dependent hyperadrenocorticism. Ultimately adrenal function testing is required for more definitive diagnosis. A urine cortisol creatinine ratio could be used as a screening test, and subsequent testing for hyperadrenocorticism should be considered (ACTH stimulation test vs LDDST).

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Liver changes are a common benign age-related change, but infiltrative disease (lymphoma, MCT, other) cannot be definitively ruled out. Elevated ALKP may be secondary to immune stimulation seen with endocrine disease. No significant disruption of architecture noted to suggest significant pathology. 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) could be tried and liver enzymes re-evaluated, especially if liver FNA does not show significant pathology before more invasive liver sampling is pursued.

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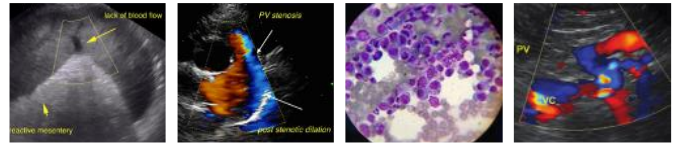
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Liver changes are a common benign age related change, but infiltrative disease (lymphoma, MCT, other) cannot be definitively ruled out. Gall bladder debris may be an incidental finding given lack of surrounding inflammation. investigation for endocrinopathy such as hyperadrenocorticism or hypothyroidism could be considered as an underlying cause predisposing to gall bladder debris accumulation and ALKP elevation. Fine needle aspirate of the liver 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. Ursodiol could be given as a choleric and empiric treatments (SAM-E, milk

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thistle, Vitamin E) could be tried. 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 routine basis for monitoring (q3-6mo) or if further significant increase in liver enzymes and/or new clinical signs are noted.

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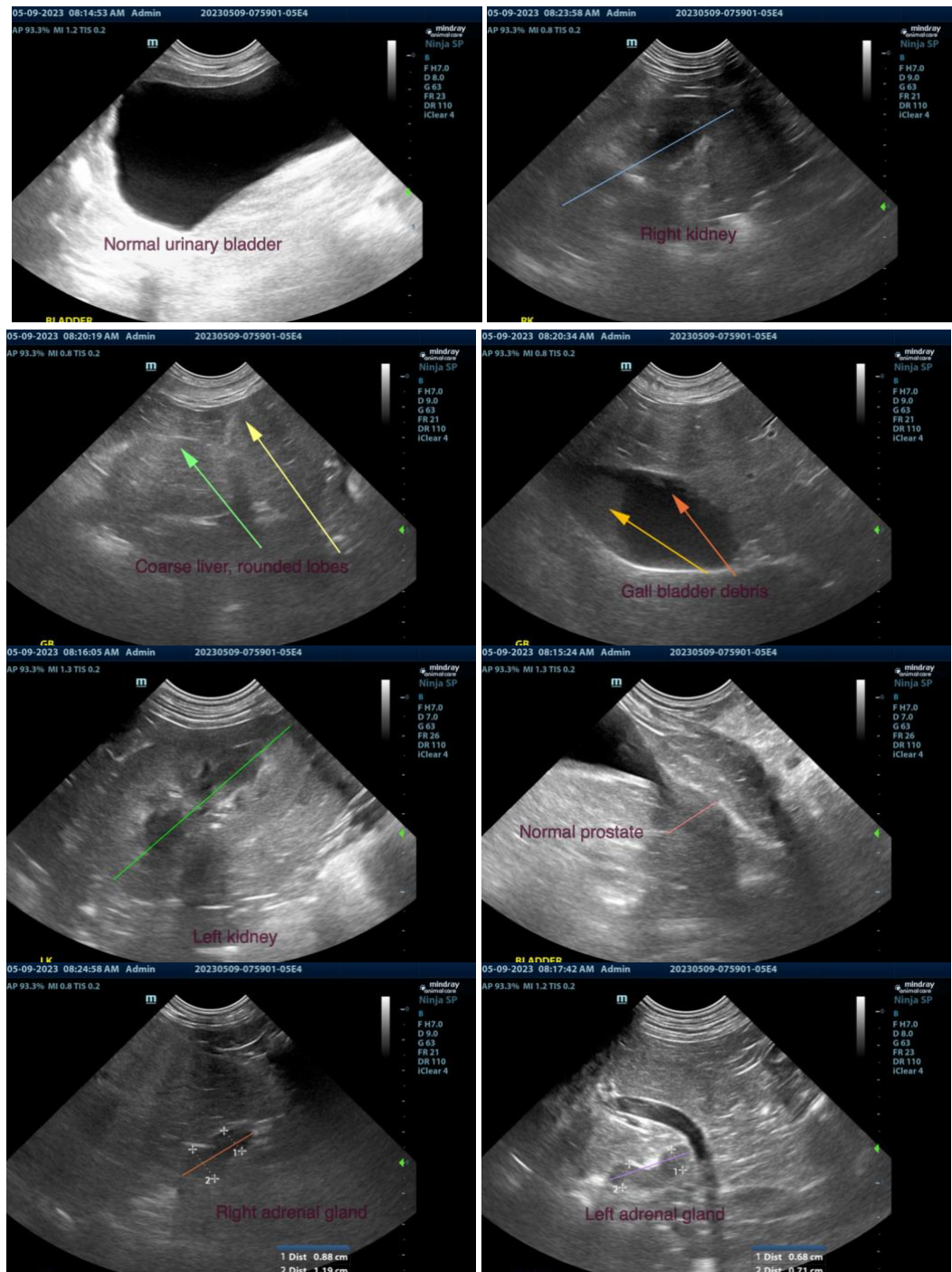
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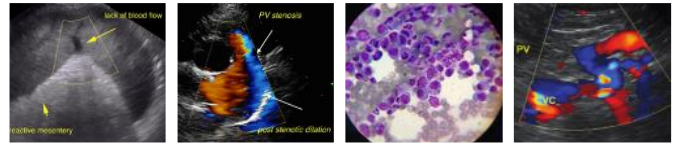
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

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info@SonoPath.com

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