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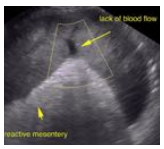
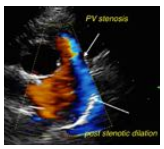
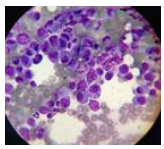
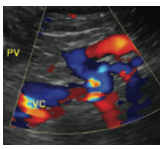

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Darwin Graham

SPECIES

Canine

BREED

Jack Russell Terrier Mix

SEX

Neutered male

AGE

14 years

WEIGHT

27.9 lbs

INTERPRETED BY

Dr Brittany Sinclair, BVSc(hons), DACVECC

IMAGING PERFORMED BY

Heather

HOSPITAL NAME

Animal Care Center of Flanders

REFERRING VET

Dr. Hargadon

INVOICE

42879

DATE

2/20/23

PRESENTING CLINICAL SIGNS

History: increased drinking, lethargic and on Tuesday o brought to AERA - he was so lethargic he didn't finish his walk o had to carry back and then woke up panting - not eating as much, has diarrhea took trazodone today for sedation - no other sedation used proviable daily , has been on apoquel but recently stopped, gabapentin given as needed (hasn't had to give recently)
2/6/23 - AST - 79(hi) , ALT- 597 (hi) , ALKP - 1420 (hi) , GGTP - 18(ji) Urea Nit- 63(hi), p02 - 63.5(hi) , 02sat - 92.0, ca++ - 1.45(hi) , BUN - 69 (hi) 5/22/22 - p02(hi) , 02 sat - 98.1(hi), ca++ - 1.43(hi)

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 have an irregular capsule and with hazing of corticomedullary definition to the point of inability to determine cortical/medullary ratio. Multifocal spherical anechoic fluid accumulation consistent with cortical cyst. No evidence of pelvic dilation was present. The left kidney measured 5.2 cm and the right kidney measured 4.78 cm.

Adrenal Glands

Left adrenal gland was 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 right adrenal gland was not definitively visualized but the vasculature in the area was within normal limits. The left adrenal gland measured 1.85 cm in length x 0.76 cm at the caudal pole and 0.75 cm at the cranial pole.

Spleen

The spleen contained a solitary small hypoechoic mid parenchymal splenic nodule and a solitary hyperechoic splenic nodule. It was normal in size with a generally slightly mottled or coarse parenchyma and smooth capsule. Normal splenic vasculature with no signs of congestion or thrombosis.

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. Gallbladder is moderately distended with normal wall thickness and anechoic contents. Common bile duct is non-distended and tapers normally.

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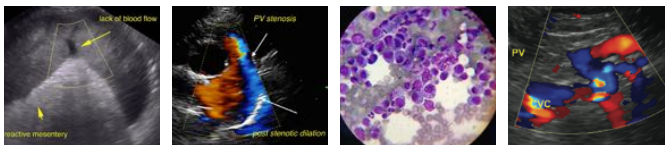

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Gastrointestinal

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. Degenerative renal changes
2. Splenic parenchymal changes with smooth capsule
3. Coarse liver parenchyma

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Renal changes are likely age related degeneration. Hypercalcemia is a likely cause of reported polydipsia. Primary hyperparathyroidism is the likely explanation for the hypercalcemia. Evaluation of Calcitriol level will help rule out secondary renal hyperparathyroidism as a cause. Survey thoracic radiographs are warranted. Splenic and liver aspirate, especially in light of ELE should still be considered. When left untreated, persistent hypercalcemia has a wide range of negative effects on the body which could explain the clinical signs in this patient. Consideration for cervical ultrasound in search of parathyroid mass and treatment with surgery or ethanol ablation could be considered.

Splenic changes are a common benign age related change, but infiltrative disease (lymphoma, MCT, other) cannot be definitively ruled out. Fine needle aspirate should be considered to further characterize parenchymal changes.

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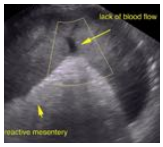
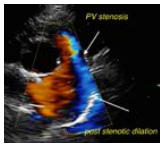
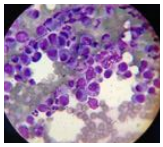
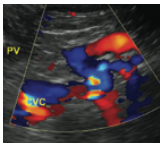

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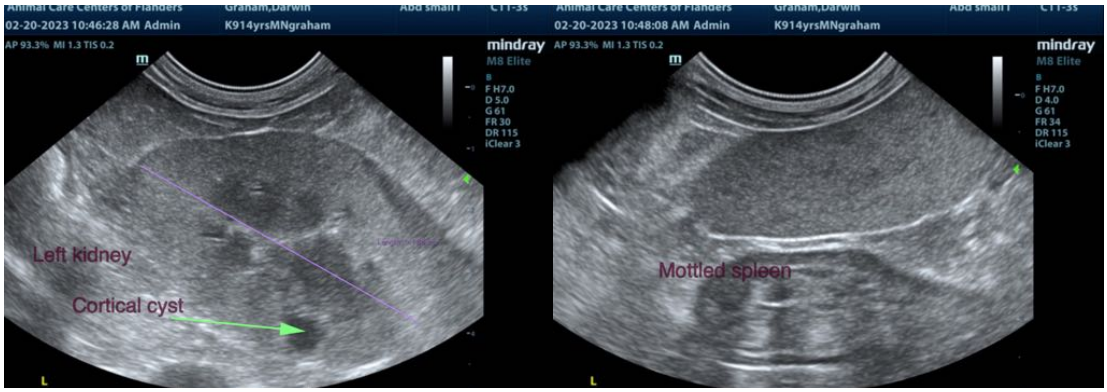
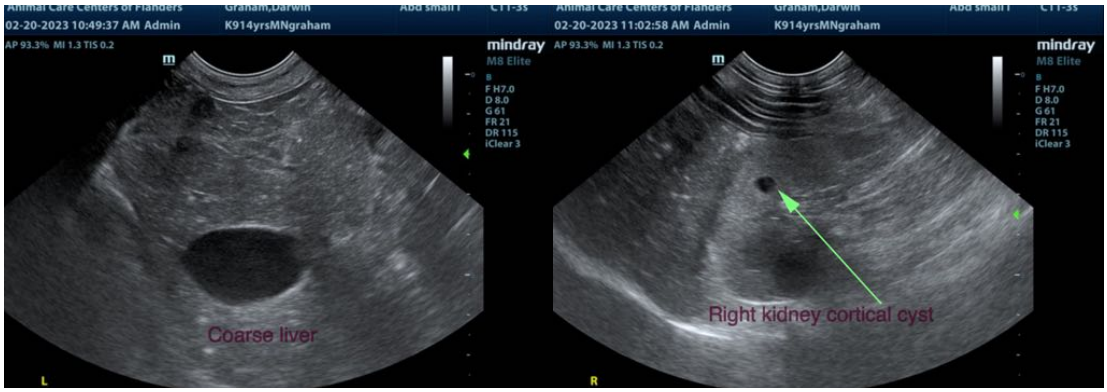
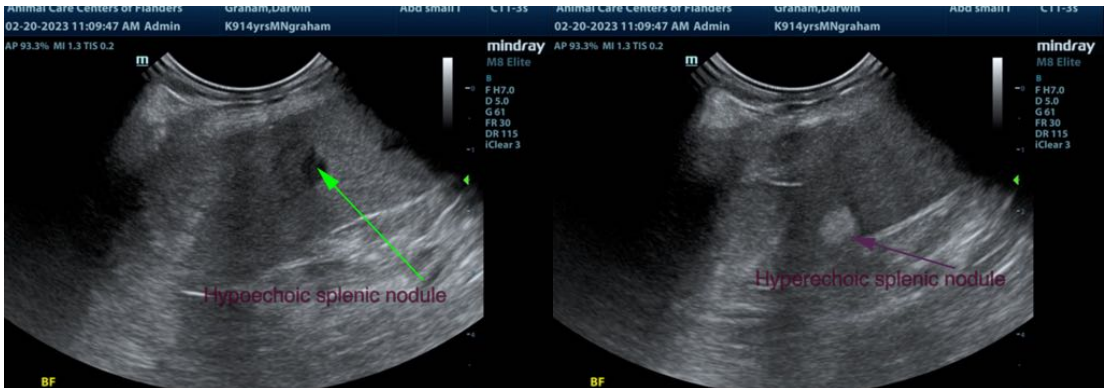
Liver changes are a common benign age related change, but infiltrative disease (lymphoma, MCT, other) cannot be definitively ruled out. No significant disruption of architecture noted to suggest significant pathology. In the face of elevated liver enzymes, fine needle aspirate is recommended to further 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, 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.







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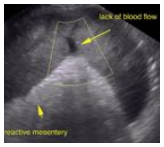
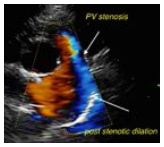
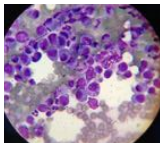
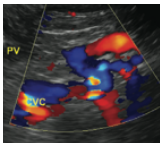

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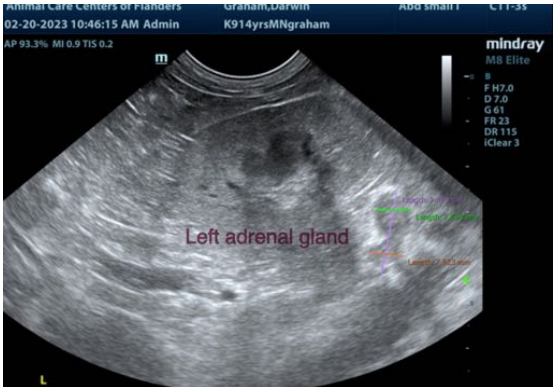

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Dr Brittany Sinclair, BVSc(hons), DACVECC
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