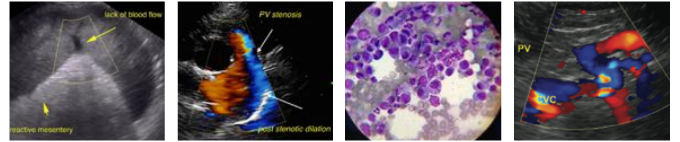

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1-800-838-4268 info@sonopath.com

PATIENT
Talla Ferrell

SPECIES
Canine

BREED
Golden Mix

SEX
Spayed female

AGE
9 years

WEIGHT
48.6 lbs

INTERPRETED BY
Dr Brittany Sinclair, BVSc(hons), DACVECC

IMAGING PERFORMED BY
Dr. Harris

HOSPITAL NAME
TotalBond VH

REFERRING VET
Dr. Harris

INVOICE
43032

DATE
2/28/23

PRESENTING CLINICAL SIGNS

History: Pt presented in October 2022 for annual wellness exam. Elevated ALT (172) noted on bloodwork. Pt was started on Denamarin and was supposed to return in one month to recheck ALT, but returned in January no longer on Denamarin. ALT was then 300. Pt was started back on Denamarin as well as amoxicillin and metronidazole for one month. ALT is now 219. Rec ultrasound to look for cause of continued elevation.

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. The left kidney contains a spherical anechoic fluid accumulation consistent with cortical cyst. No evidence of pelvic dilation was present. The left kidney measured 5.4 cm and the right kidney measured 5.95 cm.

Adrenal Glands

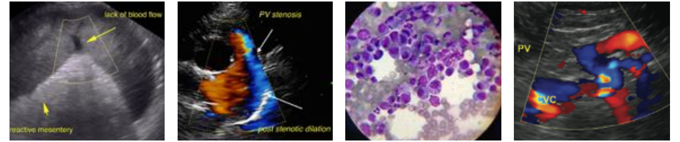
Both adrenal glands were visualized and recognized. The left was subjectively enlarged with no specific masses or nodules seen. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The cranial pole of the right adrenal gland is enlarged and effaced with mass tissue measuring 1.34cm. The capsule is smooth and does not appear to be invading surrounding vasculature. The left adrenal gland measured 2.54 cm in length x 1.0 cm at the caudal pole and 1.0 cm at the cranial pole. The right adrenal gland measured 2.3 cm in length x 0.67 cm at the caudal pole and 1.34 cm at the cranial pole.

Spleen

The spleen was normal with a generally homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma and smooth capsule, perivascular hyperechogenicity most consistent with benign myelolipomas. Otherwise 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 with normal contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative or regenerative pathology is evident. 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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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.

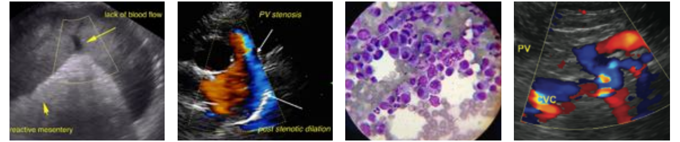
ULTRASONOGRAPHIC FINDINGS

Primary Findings

1. Right adrenal mass
2. Splenic myelolipoma, hypoechoic nodule
3. Normal liver
4. Degenerative renal changes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Right adrenal gland appears subjectively resectable with capsular expansion, without obvious capsular escape or vascular invasion. Pre-surgical abdominal CT for surgical planning and thoracic CT for metastasis screen is recommended. Differentials owing to sonographic architecture and clinical history include carcinoma, pheochromocytoma, pronounced adenoma/hyperplasia, cortisol secreting tumor, myelolipoma less likely. I recommend urine catecholamine screen (available through Marshfield labs) for pheochromocytoma detection if surgical removal is pursued as pre-surgical treatment of pheochromocytoma is essential. It is possible to have both cortisol and catecholamine secretion from the same adrenal tumor so presence of hypercortisolemia does not obviate the need for presurgical urine metanephrine screening. Serial ultrasound monitoring for enlargement/expansion if surgery is not pursued is recommended.



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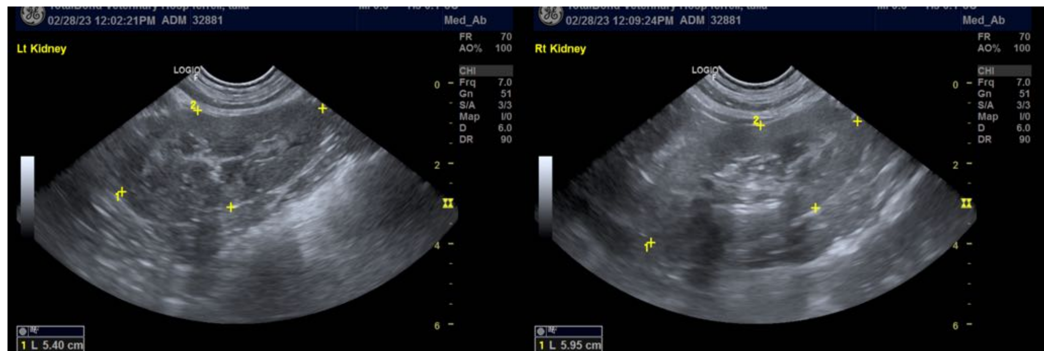
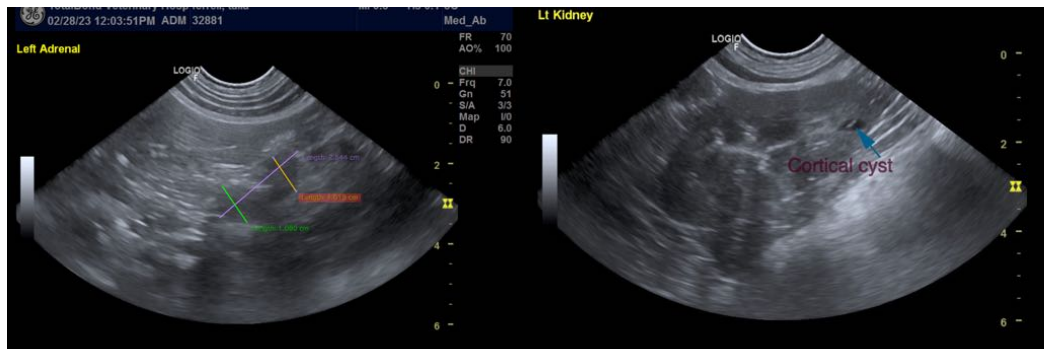
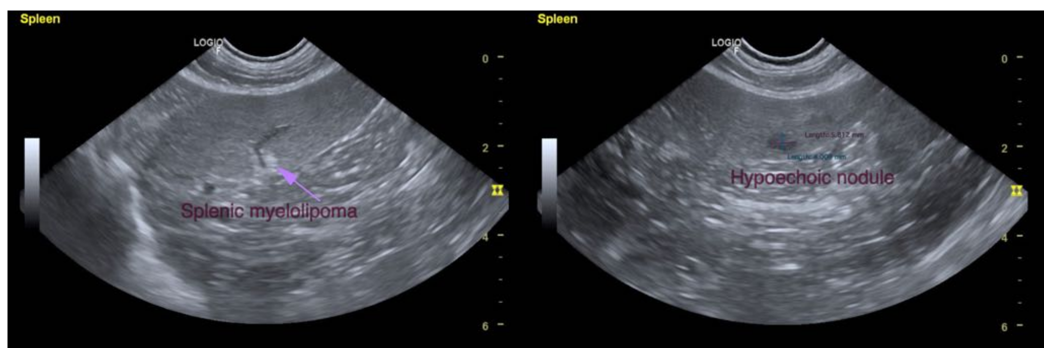
Splenic changes are a common age-related change and hypoechoic nodule can represent benign areas of regeneration, inflammation and extramedullary hematopoiesis. Infiltrative disease (lymphoma, MCT, other) cannot be definitively ruled out. No significant disruption of architecture noted to suggest significant pathology. Fine needle aspirate should be considered in light of the presence of adrenal mass.

The liver parenchyma appears normal and there is no definitive ultrasonographic explanation for the progressive elevated liver enzymes in this patient. There is no significant disruption of architecture noted to suggest significant pathology. Low grade inflammatory hepatopathy/reactive hepatopathy is a likely cause of LE elevations. Fine needle aspirate is recommended to further characterize parenchymal changes and bile acid profile to assess liver function. 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.

Renal changes are likely age related degeneration. Correlate clinical significance with blood work/urinalysis findings and clinical signs. B







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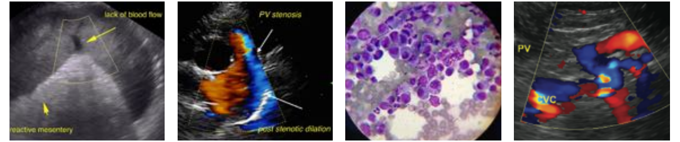

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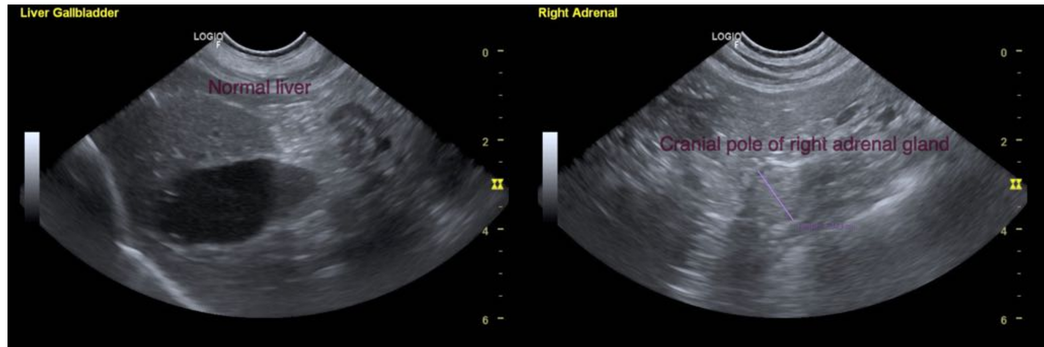

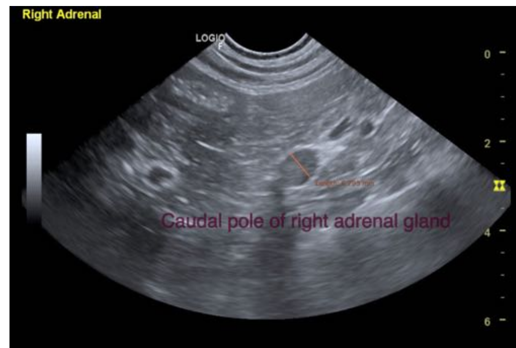

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
info@SonoPath.com