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Clinical Sonography & Telecytology
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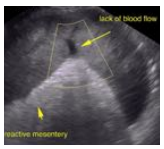
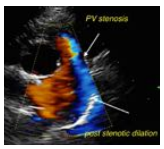
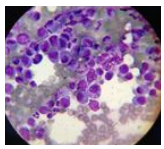
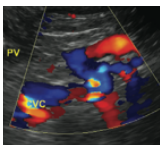




SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Marshall Sateary

SPECIES
Canine

BREED
Labrador Retriever

SEX
Neutered male

AGE
8 years

WEIGHT
82 lbs

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

IMAGING PERFORMED BY
Dr. Cerf

HOSPITAL NAME
Veterinary Center of Hardyston

REFERRING VET
Dr. Cerf

INVOICE
47818

DATE
6/5/23

PRESENTING CLINICAL SIGNS

History: polydipsia, lethargy

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 7.5 cm. The left kidney measured 7.3 cm.

Adrenal Glands

Both adrenal glands were visualized and recognized. Left adrenal gland was enlarged and hypoechoic with multifocal hyperechoic nodules throughout parenchyma. Right adrenal gland was comparatively normal in shape and echogenicity though it measured enlarged for this patients size. The phrenic vasculature, glandular echogenicity and detail were unremarkable. The left adrenal gland measured 4.06 cm in length, 1.73 cm at the caudal pole and 1.42 cm at the cranial pole. The right adrenal gland measured 3.0 cm in length, 0.85 cm at the caudal pole and 0.91 cm at the cranial pole.

Spleen

The spleen was normal in size with a diffusely abnormal parenchyma with multifocal variably sized hypoechoic nodules throughout. Capsule was generally smooth. Normal splenic vasculature with no signs of congestion or thrombosis.

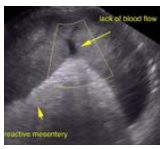
Liver

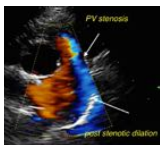
The liver is diffusely abnormal with rounded borders and irregular capsular surface. The parenchyma is diffusely hyperechoic to heterogeneous with a mottled appearance and a discrete cystic mass measuring 4.1x6.0cm in the left diaphragmatic lobe (left lateral vs left medial lobe likely). Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed.

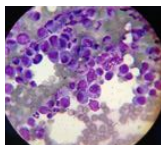
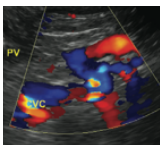
The gall bladder is moderately distended with anechoic fluid, with hyperechoic non-shadowing debris present. There is no surrounding free fluid or signs of active inflammation.

Gastrointestinal

The stomach contains 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.





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

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

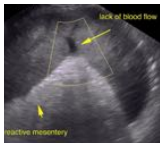
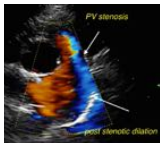
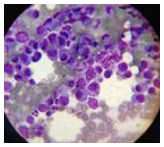
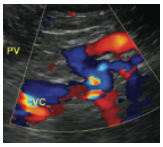
1. Bilateral adrenomegaly
2. Nodular spleen
3. Mottled liver with cystic mass

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Left adenomegaly, given corresponding clinical signs, is suspected to be secondary to hormonal stimulation as is seen with hyperadrenocorticism. With the right adrenal gland measuring enlarged as well, though to a lesser degree, this is most suggestive of pituitary 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).

Splenic changes are marked and concerning for possible infiltrative disease (lymphoma, MCT, HAS, other) cannot be definitively ruled out. They may also represent an advanced age related change, antigenic stimulation, extramedullary hematopoiesis among other things. Fine needle aspirate is recommended to further characterize parenchymal changes.

Mass in liver is cystic and concerning for neoplasia with primary differentials to include hemangiosarcoma, biliary adenoma or adenocarcinoma, hepatic carcinoma, or less aggressive hepatocellular carcinoma with cystic or necrotic component, complex granulomatous non neoplastic mass, degenerative hepatoma, among other things. Aspirate should be attempted for further information. Ultimately surgical removal should be considered because of risk of rupture and abdominal

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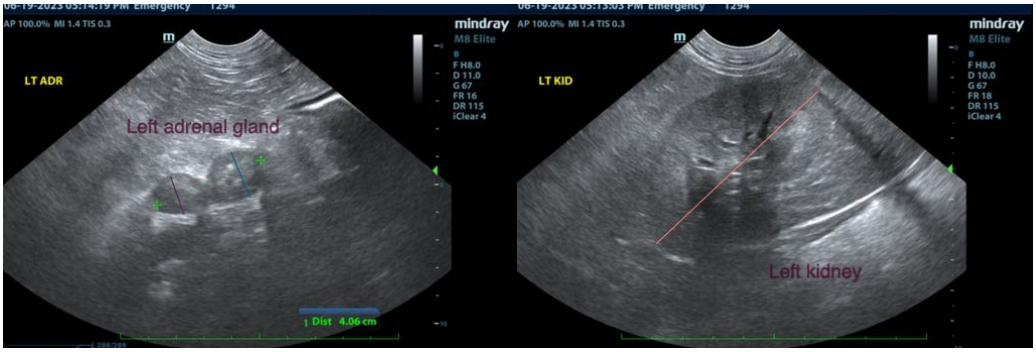
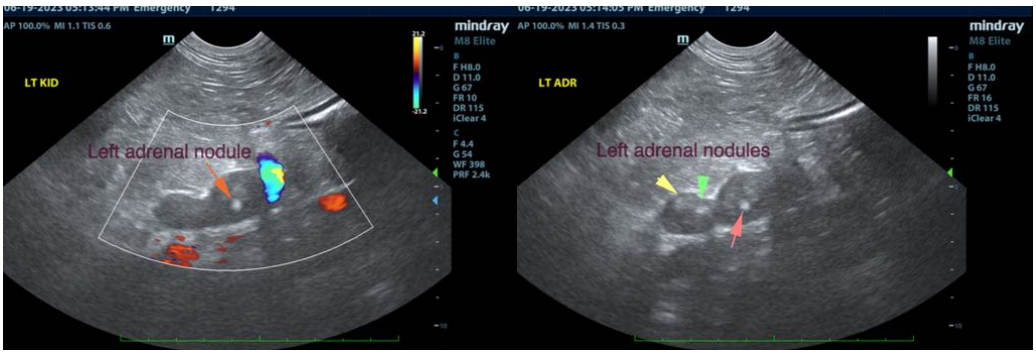
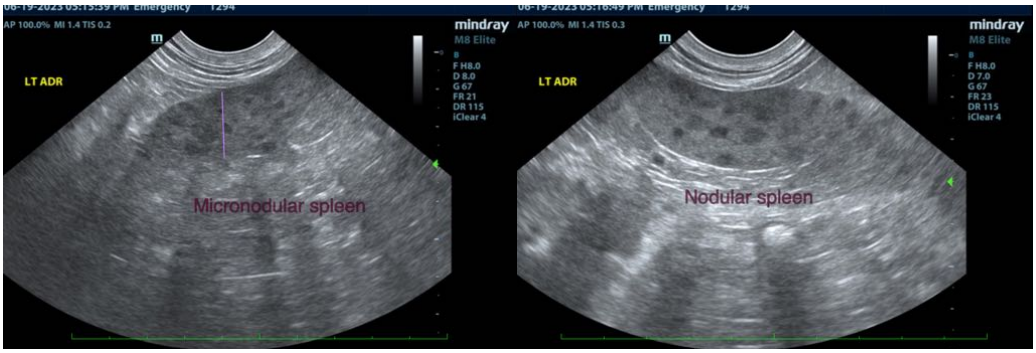
hemorrhage and this may be both diagnostic and curative. Decision to go to surgery should be carefully weighed with information from FNA sampling of both spleen and liver along with survey thoracic radiographs. Pre-operative abdominal CT may be considered for surgical planning, to confirm hepatic origin and thoracic CT could be used to screen for thoracic metastasis that may be missed on thoracic radiographs. Serial monitoring with follow up sonograms could be considered to monitor for progression if definitive removal is not desired at this time.

Gall bladder debris is likely an incidental finding and is often subclinical and often does not warrant specific treatment or further investigation. Correlate clinical significance with bloodwork findings and clinical signs.







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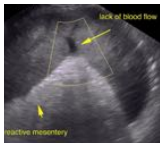
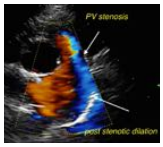
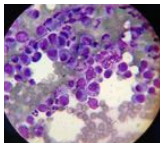
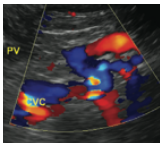

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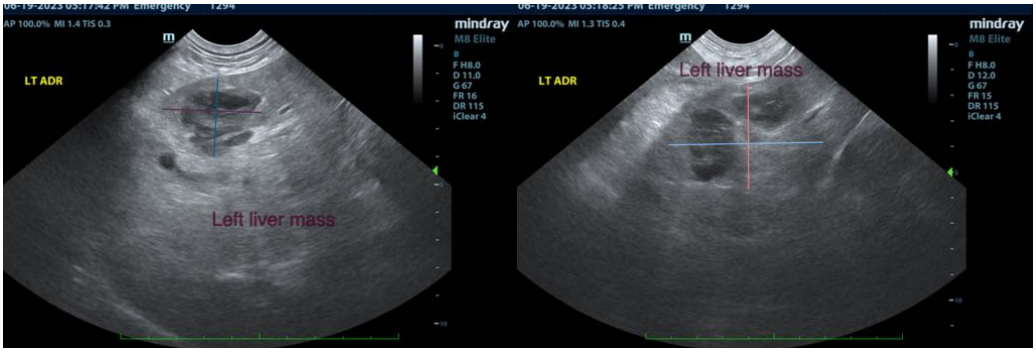

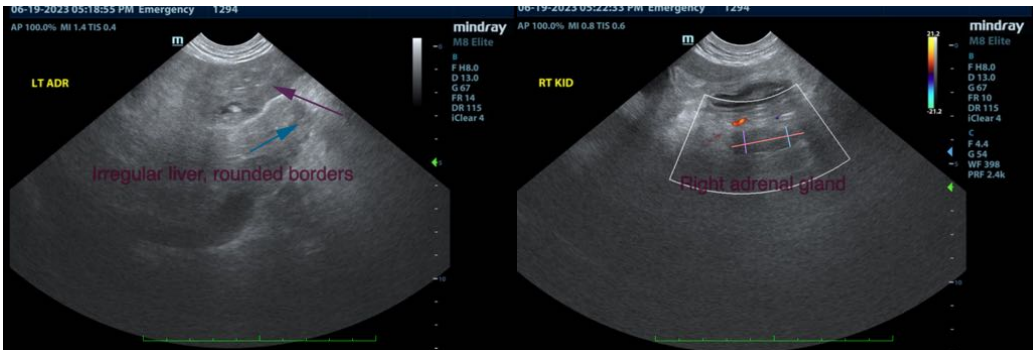

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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