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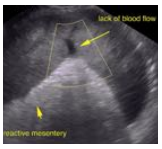
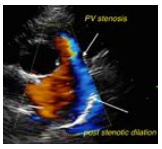
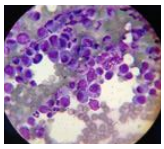
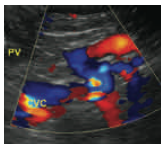

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PATIENT
Duncan Strang

SPECIES
Canine

BREED
Yorkshire Terrier

SEX
Neutered male

AGE
13 years

WEIGHT
3.5 kg

INTERPRETED BY
Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY
Dr. Stegemoller

HOSPITAL NAME
North Idaho AH

REFERRING VET
Dr. Morgan

INVOICE
95935

DATE
2/9/22

PRESENTING CLINICAL SIGNS

History: Collapsing trachea that has been managed with minimal prednisone. Owner reports no longer on prednisone and only coughing occasionally (twice daily). Presented 2/7 for pre-surgical bloodwork for dentistry, and due to liver enzyme elevation, elected to work up liver prior to anesthesia. Liver aspirates submitted to Idexx. Other diagnostics available (ie. Blood pressure, radiographs, etc): BP 75/54 MAP 58 (with butorphanol), prior to sedation 155/125 MAP 130
Abnormal PE/Chem/CBC/UA Results: Abnormal laboratory findings: CBC - monocytosis 1.16, thrombocytosis 618; Chem - SDMA 14, Cre 0.9, BUN 28, ALT 755, ALP 521; UA - USH 1.024, pH 7, quiet sediment Abnormal physical exam findings: Slight inspiratory wheeze over trachea, no heart murmur or arrhythmia. Moderate-severe bilateral MPL. Slightly pendulous abdomen with BCS of 6/9.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The prostate is normal in size (0.9 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (3.4 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (3.59 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.29 cm at the caudal pole It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.47 cm at the caudal pole It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

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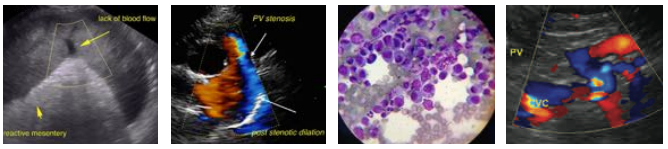

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Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a rounded caudal portion of liver, which is isoechoic to the remaining parenchyma. This area measures 5.4 x 2.7 cm and appears in the mid to left side of the caudal aspect of the liver. This likely represents a rounded liver lobe or an isoechoic mass effect. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm 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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

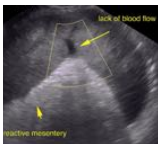
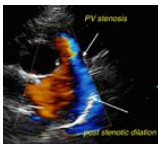
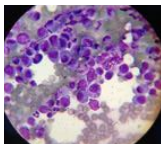
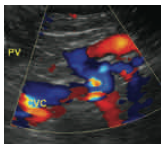
Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

PRIMARY FINDINGS:

- Mildly heterogenous liver with rounded area that is most consistent with a rounded liver lobe or an isoechoic mass effect. This area is subtle and could be normal for this individual or alternatively could represent an isoechoic mass effect.

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SECONDARY FINDINGS:

- Decreased corticomedullary distinction in both kidneys. The bilateral renal findings are consistent with age-related change.
- Mild gallbladder sludge. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

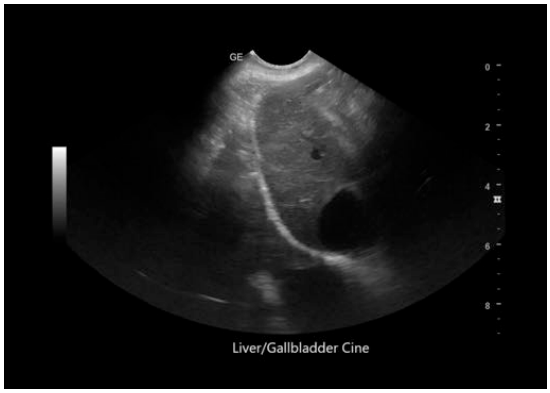
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The ultrasonographic changes in the liver were relatively mild. There is a rounded area of liver, which can be consistent with a normal anatomic variant and a rounded liver lobe or could be consistent with an isoechoic liver mass. Options moving forward include:

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc.
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history
- If not already done, consider pre and post prandial bile acids to evaluate liver function
- If the ALP is significantly elevated relative to the ALT and symptoms consistent with Cushing's are present, consider adrenal function testing (ACTH stim)
- Consider Fine needle aspirate of the rounded, caudal area of the liver or any are of liver that you can reach readily
- If no response to medical care (Denamarin, antibiotics,+/- Ursodiol etc…) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

I recommend three view thoracic radiographs.

Provided liver function is normal there is likely no increase in risk associated with proceeding with the planned dental.



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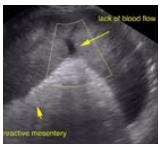
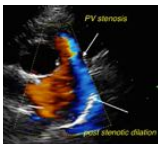
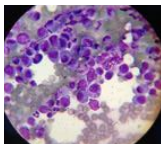
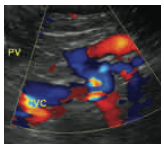

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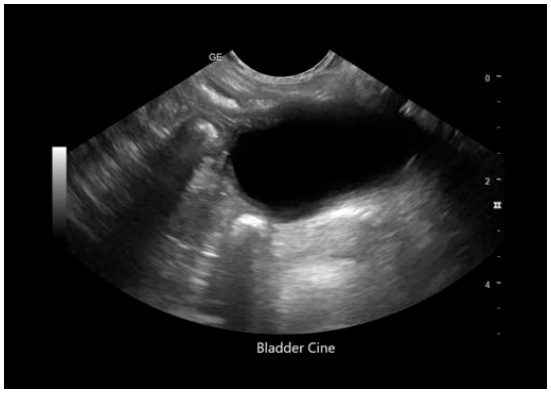

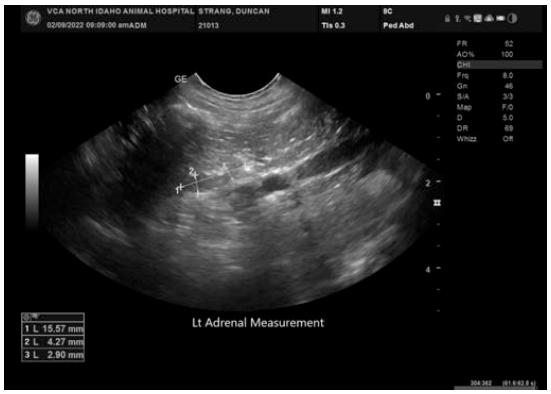

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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