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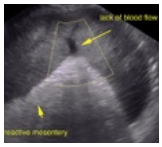
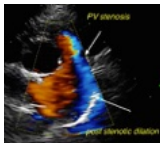
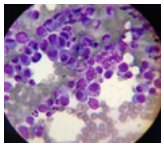
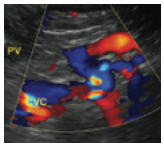

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PATIENT

Blitzen Severeance

SPECIES

Canine

BREED

Mix

SEX

Neutered Male

AGE

10 years 7 months

WEIGHT

64.0 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Aaron Lucas DVM, Ph.D

HOSPITAL NAME

Taylorsville Veterinary Clinic

REFERRING VET

Aaron Lucas DVM, Ph.D

INVOICE

10312

DATE

7/13/2023

PRESENTING CLINICAL SIGNS

Patient had an abdominal ultrasound on 518/23 reviewed by Sonopath. Given, relatively unremarkable findings on that ultrasound a GI panel was carried out serum folate was elevated (19.3) and Spec cPL and Cobalamin were normal. TLI was slightly elevated. Patient was prophylactically dewormed with a 3-day course of panacur and treated for SIBO with metronidazole. Dietary elimination trial with Royal Canin Ultamino was undertaken. Patient had been doing well until 48 hours ago when his appetite acutely decreased. Owner's noticed bloody feces yesterday morning and patient was examined yesterday afternoon. Upon exam patient was running a low-grade fever (103.0) and upon cystocentesis free fluid (small volume) was detected in abdomen. Routine Chemistry and CBC were submitted and reveal leukopenia (4.2) characterized by a neutropenia (2,201). Blood chemistry reveals hyperproteinemia (8.2) characterized by a hyperglobulinemia (5.7) and a hypoalbuminemia (2.5). Liver enzymes are also elevated (ALT - 276, AST - 132, ALP - 777) and these have shown an upward trend from normal in April to slightly elevated in May at time of initial ultrasound). Abdominal radiographs reveal hepatic enlargement and general loss of serosal detail within abdomen. Three view thoracic radiographs are unremarkable. Rectal exam reveals formed feces with streaks of frank hematochezia and mucus.

Abnormal PE/Chem/CBC/UA Results: Leukopenia characterized by a neutropenia Elevated ALT, AST, and ALP Elevated Amylase (1835) Total protein on abdominal fluid is 5g/dL Full fluid analysis pending.

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 visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (0.61 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex: medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

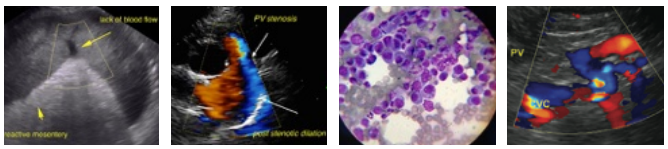
The right kidney has a normal shape and size (6.01 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex: medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.59 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 0.52 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



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The spleen is large, hypoechoic, and mottled with irregular scalloped margins, measuring over 3 cm in width at the level of the hilus. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is large in size with rounded margins. The parenchyma is hypoechoic and heterogeneous echotexture. The visible portions of the vasculature and biliary tract appear normal. On the left side of the liver there is a rounded, irregular distal aspect of the liver lobe, which is slightly hyperechoic in echogenicity. It measures 4.56 cm x 4.05 cm.

The gall bladder lumen is moderately distended. The wall of the gall bladder 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 jejunum measured as normal (0.37 cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction is not clearly visualized. The proximal colon appears significantly distended with shadowing intraluminal fecal material and gas and appears mildly thickened and irregular measuring at 0.37 cm. As it extends distally cranial to the urinary bladder the colon wall thickens severely and loses wall layering. It is measures up to 0.8 cm at which point it becomes asymmetrical forming a large mass effect measuring 2.55 cm x 2.12 cm. This area appears surrounded by severely abnormal mesentery, which has a somewhat marbled hyperechoic and hypoechoic apperance, possibly inflammatory with localized peritonitis or neoplastic tissue.

Pancreas

The area of 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 reveal a moderate amount of echogenic free fluid. There is a severely enlarged irregular hypoechoic sub lumbar lymph node visualized measuring 3.06 cm x 2.01 cm. There is significant mesenteric inflammation surrounding the liver and the spleen. The previously mentioned focal irregular mixed echogenicity tissue associated with more distal colon is concerning for focal peritonitis or extension of a possible colonic mass/abscess.

PRIMARY FINDINGS

- Large, hypoechoic mottled/scalloped spleen. The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.

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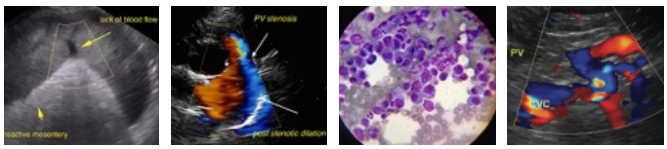

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- Large, hypoechoic heterogeneous liver with rounded margins. There is a focal hyperechoic rounding on the left side of the liver consistent with a mass effect – this could represent an atypical liver lobe, adenoma, carcinoma, etc.
- Moderate gallbladder debris. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.
- Diffuse colonic wall thickening with a focal mass effect and severely abnormal surrounding tissue. The mass effect observed is a result of progressive wall thickening and a neoplastic lesion would be the primary differential. Although, this could also be an abscess/perforated area of tissue with focal surrounding peritonitis.
- Moderate amount of echogenic free abdominal fluid. Findings are concerning for peritonitis (septic versus sterile). Recommend stat cytology +/- aerobic and anaerobic cultures.
- Large, hypoechoic, irregular sublumar lymph node-this is concerning for a metastatic node, although a severely reactive node is possible.

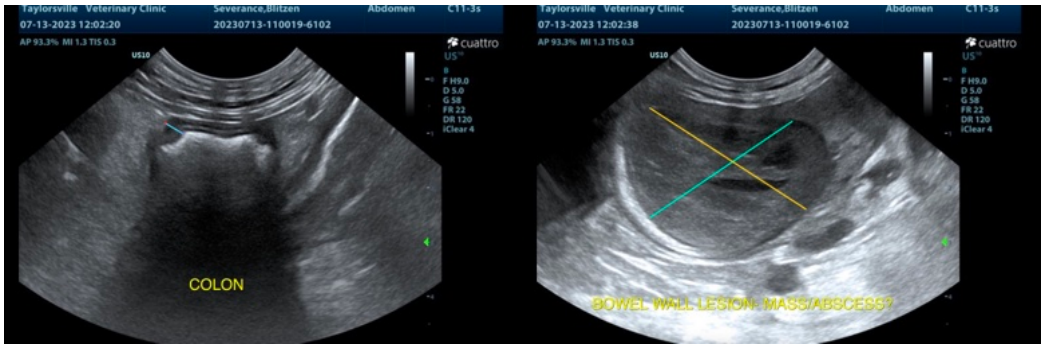
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Both the liver and the spleen are significantly enlarged and abnormal with rounded margins. There is a subtle rounded focal area of the liver which could represent anatomic variation, a focal mass lesion, etc. Recommend fine needle aspirates of both of these structures.

There is an area of descending thicken colon which appears to have progressive wall thickening with loss of layering, which progresses into a mass lesion. This has very abnormal, mottled inflamed surrounding tissue. I am concerned this could represent a mass with a secondary abscess or perforation, or expansile neoplastic tissue. A fine needle aspirate of this region should be considered.

Initial efforts should focus on trying to determine if this is a septic peritonitis with fluid analysis and cytology. At the same time, I would consider aspirating the colonic mass, liver and spleen because I am concerned this patient could require emergency surgery. If there is an underlying widespread neoplastic process then the prognosis would be negatively effected

Additionally, you could consider a contrast CT scan. Which may be able to provide a more global view of these lesions and better determine a possible surgical plan. Recommend three view thoracic radiographs.



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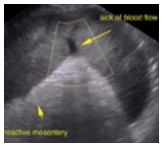
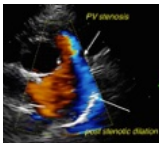
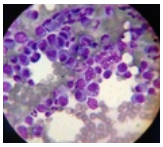
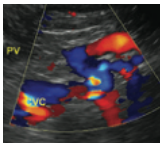

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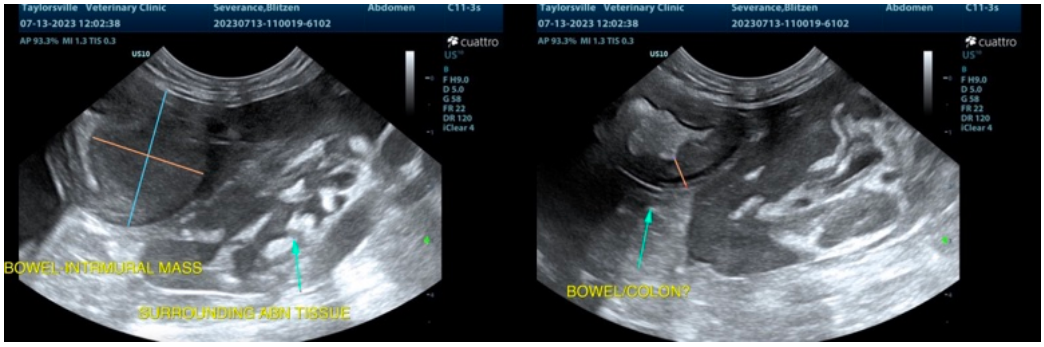

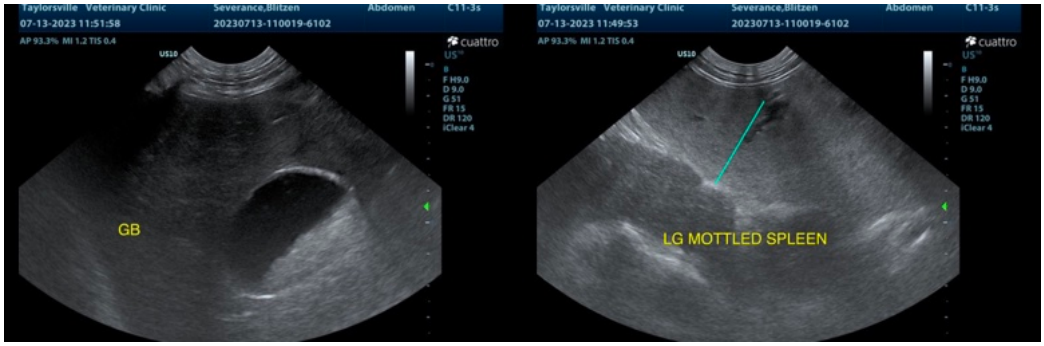

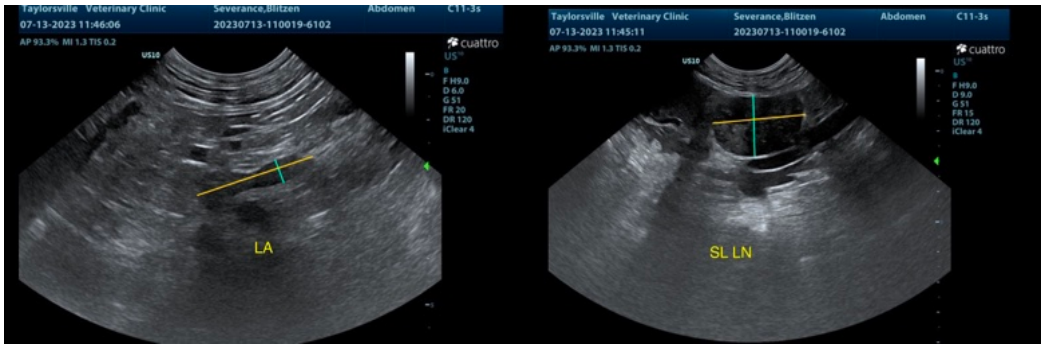

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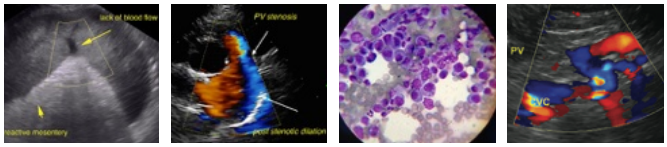

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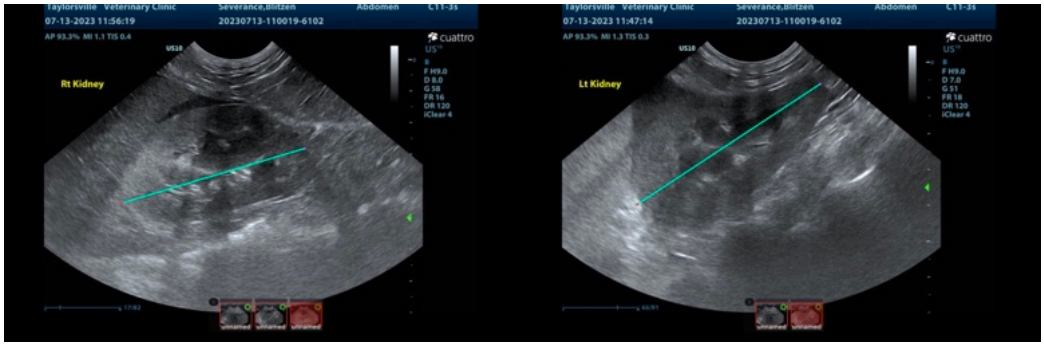

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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