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Clinical Sonography & Telecytology
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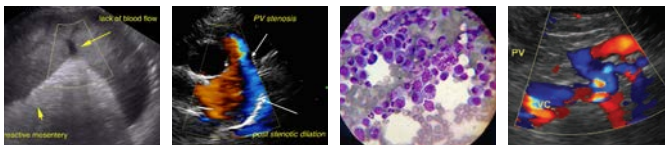

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1-800-838-4268 info@sonopath.com

PATIENT
Sara Dudeck

SPECIES
Canine

BREED
Border Terrier

SEX
Spayed Female

AGE
15

WEIGHT
16.6

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Dr. Susan Lincoski

HOSPITAL NAME
University Drive VH

REFERRING VET
Dr. Susan Lincoski

INVOICE
45385

DATE
2/21/23

PRESENTING CLINICAL SIGNS

Sara presents for PLE workup. 2/8/2023 11:30 Spoke to Pam and went over GI panel results. Spec cPL was elevated (407) TLI elevated at (39.5) Cobalamin B 12 elevated (163). Discussed with owner possibilities of low albumin could be intestinal diseases (ie IBD, PLE) , SIBO, or neoplasia. Recommend GI ultrasound for more information to know which dx is more likely and what to treat with. Dog is currently on a weight management diet. Will discuss with SL as to where to schedule. Starting dog on vitamin b12 injections: Will need to supplement this with vit. B12 injections SQ Will give 0.25ml SQ weekly for 6 weeks, and then every 2-4 weeks indefinitely pending response after initial 6 weeks. Owner already does this with her other dog, Simon, and knows how to do this.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia or infarcts observed. The right kidney measured 4.16 cm. The left kidney measures 4.27 cm. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted.

Adrenal Glands

Adrenal glands are small (flattened contour). Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The left adrenal gland measures 0.30 cm at the cranial pole and 0.20 cm at the caudal pole. The right adrenal gland measures 0.40 cm at the caudal pole, the cranial pole is unable to be well visualized in these images.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

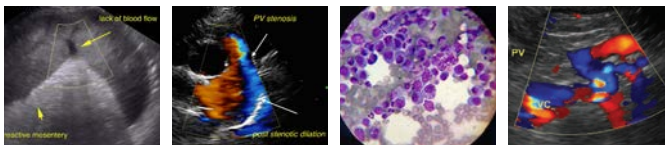
Liver

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as mild to moderate suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.



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The visible small intestines are normal in wall thickness and layering. Very subtle hyperechoic mucosal fogging or speckling is noted. Small intestinal motility appears adequate (1-3 contractions per min).

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS

- **Flat adrenal glands** – This can be a normal patient variant and/or a sign of exogenous cortisol administration. If exogenous steroids are not being administered, hypoadrenocorticism (either relative or absolute) should be considered.

- **Very subtle mucosal speckling –** Mucosal speckling is often present with inflammatory bowel disease (IBD). It is not specific for type or severity of disease. Mild speckling change can occur as a normal patient variant in the post-prandial state.

ULTRASONOGRAPHIC FINDINGS

- Age related kidney changes with non-obstructive dystrophic mineralization bilaterally

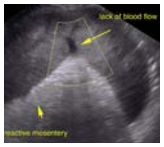
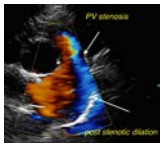
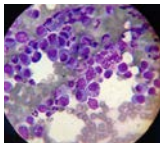
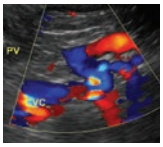
- **Mild to moderate gallbladder debris -** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient's reported hypoalbuminemia and hypocobalaminemia, the subtle mucosal speckling may be suggestive of an infiltrative bowel disease, possibly protein losing enteropathy. Therefore ideally, biopsies of the GI tract are recommended to definitively diagnose and therefore manage the infiltrative bowel process.

If biopsies cannot be obtained safely due to low albumin or patient stability, etc., empirical therapies could include diet change to an ultra-low fat diet, empirical deworming with a 5 day course of Panacur, cobalamin supplementation (unless cobalamin level is evaluated and supplementation is not warranted) a probiotic and prednisolone (if not contraindicated based on patient contraindications, co-morbidities, etc.). Calcium monitoring, and supplementation if necessary, is also recommended.

Additionally, however, ruling out other causes of hypoalbuminemia based on the pathology described above is recommended in the form of a baseline cortisol.If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

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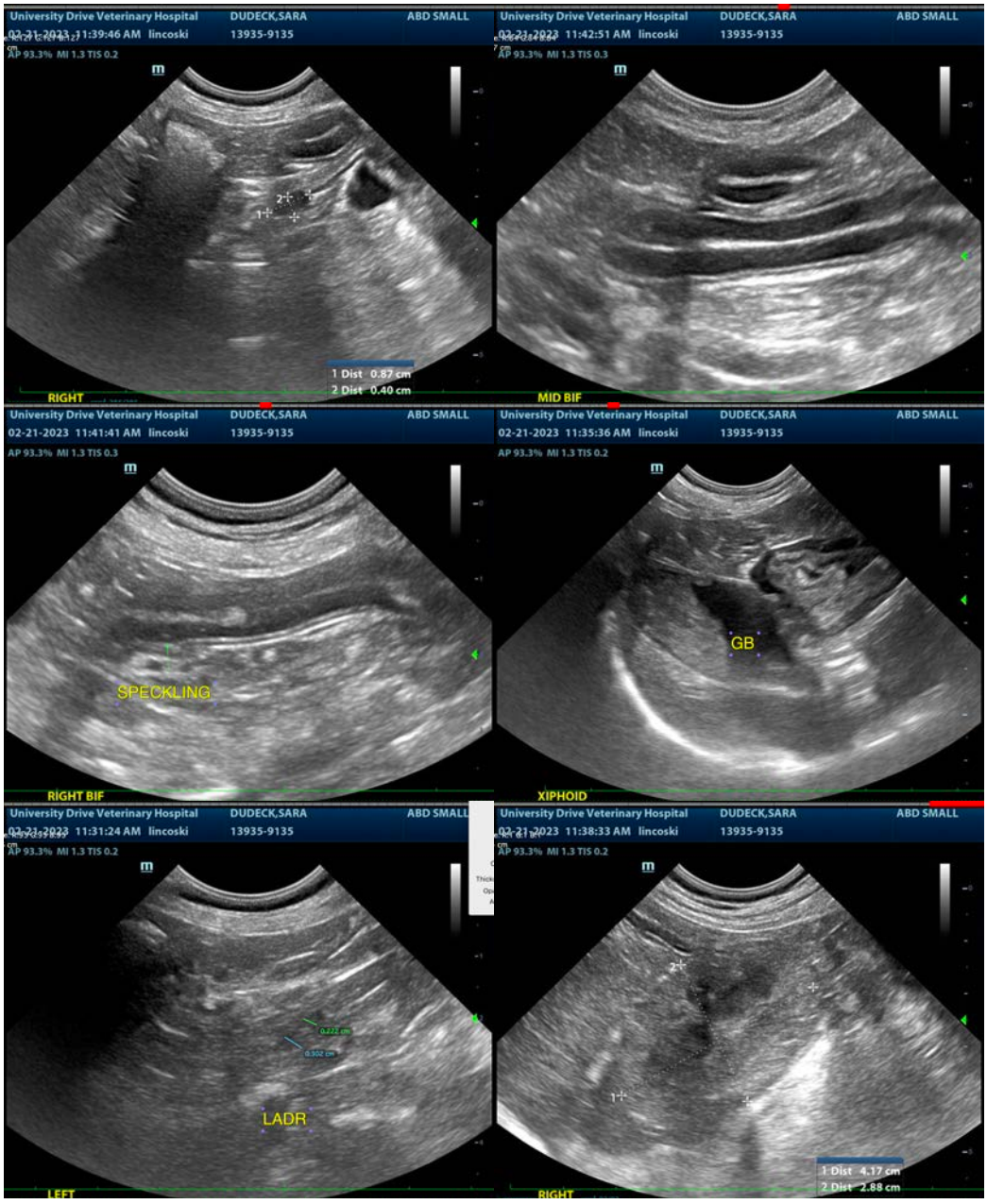
Concurrent proteinuria should be ruled out with a urinalysis and, if indicated based on urinalysis results, urine culture. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.



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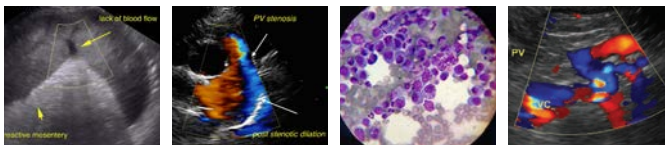

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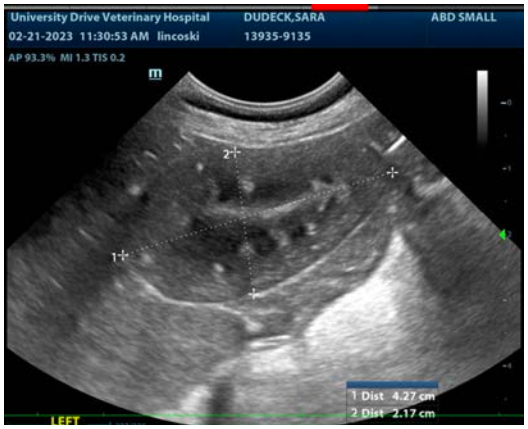

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com