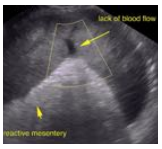
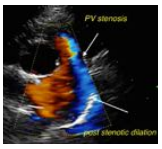
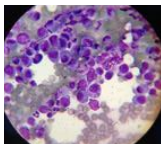
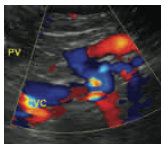

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1-800-838-4268 info@sonopath.com

PATIENT

Sandy Heitkamp

SPECIES

Canine

BREED

Labrador

SEX

Spayed Female

AGE

9 years

WEIGHT

81.3 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Plourde

HOSPITAL NAME

TotalBond VH

REFERRING VET

Dr. Plourde

INVOICE

91933

DATE

9/22/21

PRESENTING CLINICAL SIGNS

History: Pt has had progressive exercise intolerance for the last 5-6 weeks. Pt has also started to cough in the last 1.5 weeks. Labwork revealed mild proteinuria and repeat labwork reveals hypoalbuminemia and hypoproteinemia. Last week pt came in and had developed abdominal effusion. 500ml of serosanguinous fluid was removed. It was a modified transudate, but cytology did not lead to a diagnosis. Pt returned Monday and we drained 2 L of fluid. Top ddx rt sided CHF (possible pulmonary hypertension; FAST scan of heart did not reveal obvious DCM and no murmur ausculted; chest rads reveal mild lung changes consistent with age) vs neoplasia vs other (granulomatous dz)
Abnormal PE/Chem/CBC/UA Results: Phos 5.2 TP 4.9 Alb 2.4 UP: C 1

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 left kidney has a normal shape and size (6.39 cm). Overall echogenicity is normal with adequate 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 (7.09 cm). Overall echogenicity is normal with adequate 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 region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

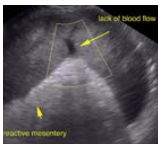
The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. No evidence of a mass effect.

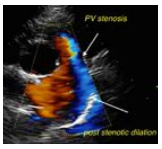
Spleen

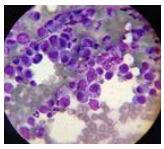
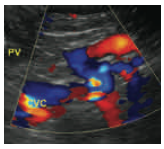
The spleen is subjectively large in size The spleen echotexture is heterogenous and mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is subjectively normal in size with rounded margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary





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tract appear normal. No focal nodules or cystic lesions are observed. The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. 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 uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. The duodenum measured 0.7 cm. The jejunum measured 0.36 cm. 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 region 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.

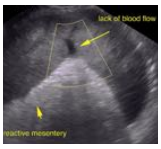
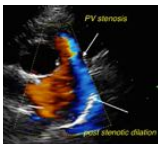
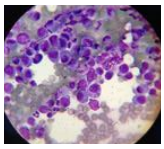
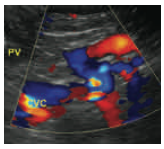
Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. A large amount of anechoic free fluid was noted. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

PRIMARY FINDINGS:

- Prominent, mildly mottled 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.
- Heterogenous liver. The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Thickened small intestine with intact layering. The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia.
- Large volume of anechoic free fluid. Per the history this was sampled and is a modified

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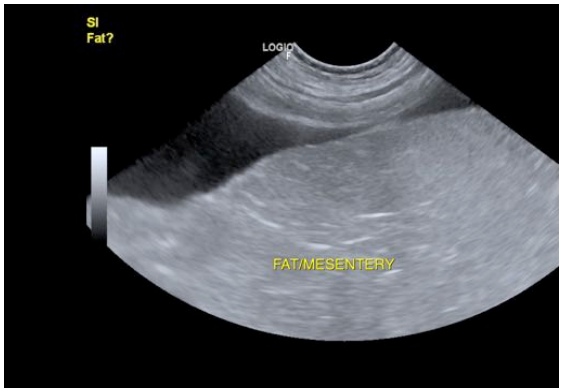
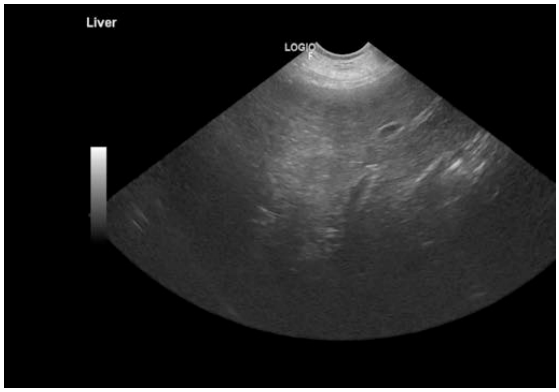
transudate. The most common differentials include heart disease, liver disease or a neoplastic effusion. Other possibilities exist.

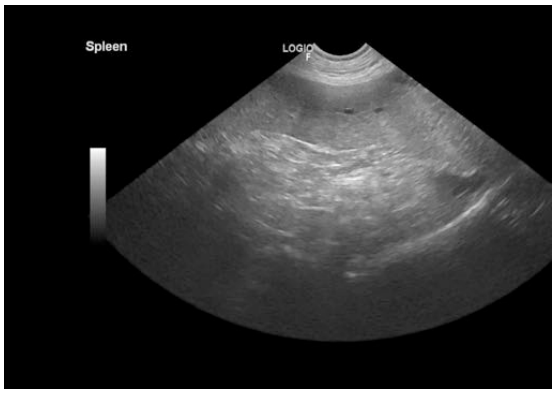
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

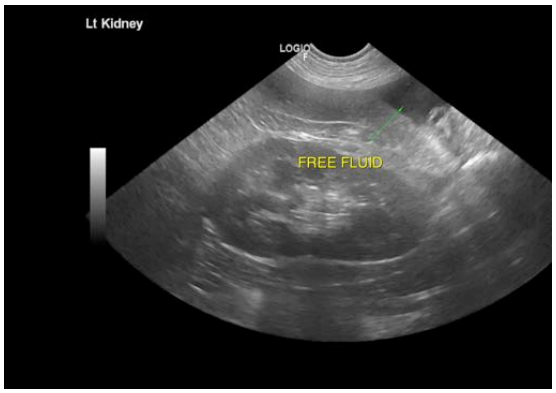
An obvious cause for the ascites and hypoalbuminemia is not observed. Mild proteinuria is reported, but the degree of proteinuria seems too mild to be responsible directly for the symptoms. The liver is somewhat irregular. Consider a liver function test and a FNA of the liver to look for evidence of cirrhotic change or infiltrative disease. Additionally the spleen appears mildly enlarged. A FNA of the spleen can be considered. Additionally I recommend a cardiac ultrasound.

The severity of the hypoalbuminemia reported is relatively mild and is unlikely to cause ascites on its own. Possible differentials for the hypoalbuminemia include liver dysfunction, renal protein loss (seems unlikely based on UPC) or GI disease. The bowel does appear somewhat thickened. This can be due to primary gastrointestinal disease or secondary to the free fluid in the abdomen. You can consider a GI panel to look for evidence of B12 deficiency, etc that can support a possible diagnosis of protein losing enteropathy. I recommend three view thoracic radiographs. If the echocardiogram is normal and liver function test is normal you can consider advanced imaging (CT scan of the caudal thorax through the abdomen to look for any evidence of thromboembolic disease or obstruction at the level of the diaphragm).









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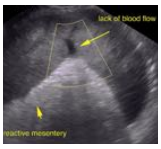
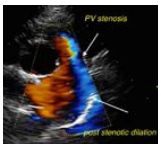
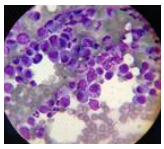
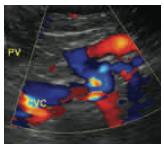

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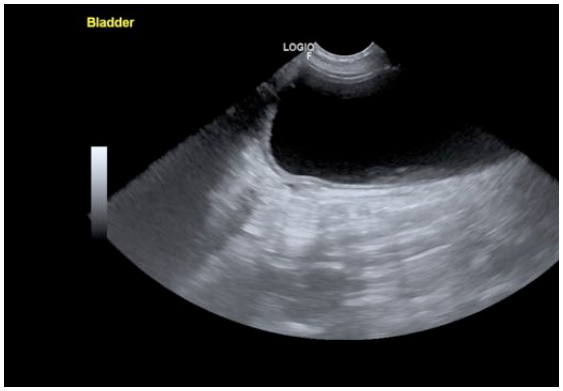

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)
kathleen.sennello@sonopath.com