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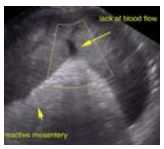
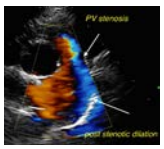
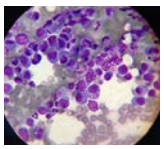
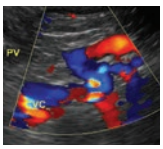

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1-800-838-4268 info@sonopath.com

PATIENT

Marley Esposito

SPECIES

Canine

BREED

Yorkie

SEX

Neutered Male

AGE

13 Years

WEIGHT

13.9 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Denville Animal Hospital

REFERRING VET

Dr. Reddy

INVOICE

44942

DATE

2/8/23

PRESENTING CLINICAL SIGNS

Suspected liver swelling since 1/24/23. xrays done 2/6/23

Abnormal PE/Chem/CBC/UA Results: high ALT and ALK; elevated BUN+Urea, cholesterol; high bile acid Pre+Post; high cortisol

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall is diffusely mildly thickened (0.34 cm), and the mucosa is mildly irregular. The trigone, ureteral papillae, and visible urethra (to a depth of 2cm) appear normal with no evidence of severe mucosal irregularities, masses or cystic calculi. Findings are most consistent with bacterial cystitis or lack of urine distension. Recommend urinalysis and culture.

The prostate is borderline large and slightly irregular, measuring 0.97 cm. The parenchyma appears slightly heterogeneous with no discrete focal lesions. The area of the prostate urethra appears normal with no evidence of mass effect or calculi, and measures 0.97 cm in height in the sagittal view.

The left kidney has a normal shape and size (4.26 cm). Overall echogenicity is slightly hyperechoic with poor 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 (4.74 cm). Overall echogenicity is slightly hyperechoic with poor 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 0.57 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 0.42 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.

Liver

The liver is large and irregular. The parenchyma is severely heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is an ill-defined hyperechoic lesion visualized in the left side of the liver measuring approximately 3.0 cm x 1.51 cm.

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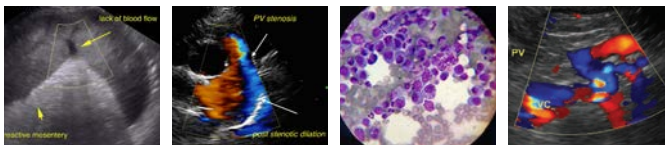

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The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains a moderate amount of fluid. 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. Duodenum wall measures 0.41 cm. Jejunum wall measures 0.37 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 mild to moderate corrugation 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

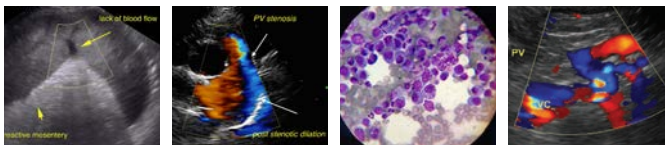
Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

Other

There is an ill-defined hypoechoic region in the caudal abdomen that appears associated with bowel. This could represent a lymph node, a thickened area of bowel, etc. Consider reevaluation of this region in the future.

ULTRASONOGRAPHIC FINDINGS

- Mildly thickened urinary bladder – The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient.
- Prominent, irregular prostate – Correlate this with the age of neutering. If this pet was neutered after puberty, this could be normal for this individual. If this patient was neutered prior to puberty, then consider a fine needle aspirate, as this appears irregular and large.
- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- Large, heterogeneous liver with ill-defined hyperechoic lesion on the left side – 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. There is diffusely irregular parenchyma. The appearance of the hyperechoic region could represent a



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benign or neoplastic lesion.

- 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.
- Moderate fluid distention of the stomach – Correlate with feeding history, if the patient recently drank, etc. If the patient was fasted, then consider the possibility of delayed gastric emptying.
- Mildly corrugated gassy large bowel with possible irregular thickened bowel in the caudal abdomen – This could be consistent with colitis/enteritis. Recommend reevaluation of the caudal region of bowel in the future.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

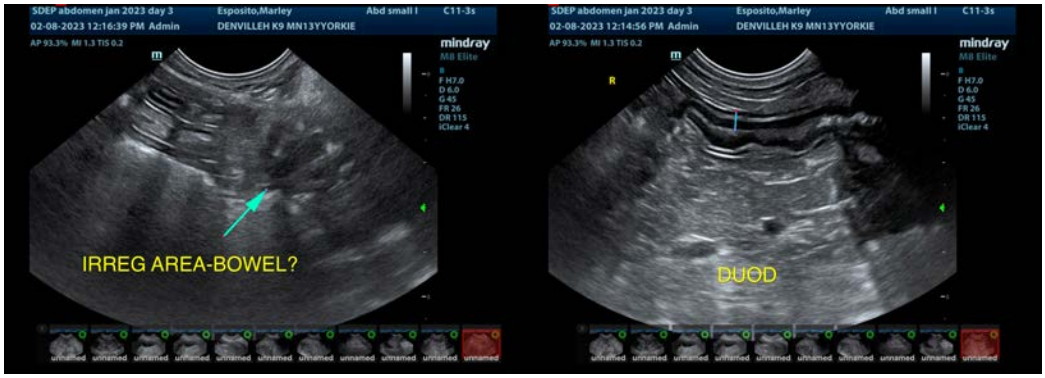
The liver is large and very heterogeneous and irregular with a patchy focal irregular area on the left side that is of unknown significance. Given the significant liver enzyme changes described, a fine needle aspirate should be considered to rule out round cell neoplasia (provided coagulation parameters are normal). If this is ruled out, then consider a biopsy of the liver for histology, aerobic and anaerobic culture, and copper levels.

Both kidneys have changes consistent with chronic progressive renal disease. Recommend a urinalysis, culture, and blood pressure as a baseline.

The prostate appears somewhat irregular. If this patient as neutered prior to puberty this could be anormal and a fine needle aspirate should be considered.

There is the general impression of gastrointestinal issues with a fluid dilated stomach, a corrugated gassy colon, and some possible thickened small bowel in the caudal abdomen (visualization is limited). Correlate with clinical signs and consider treatment for non-specific gastroenterocolitis, and possible workup for underlying gastrointestinal disease if symptoms persist beyond evaluation of the liver.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.



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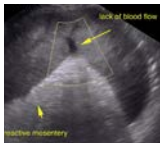
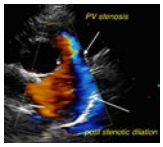
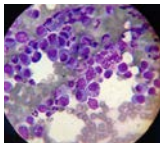
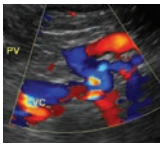

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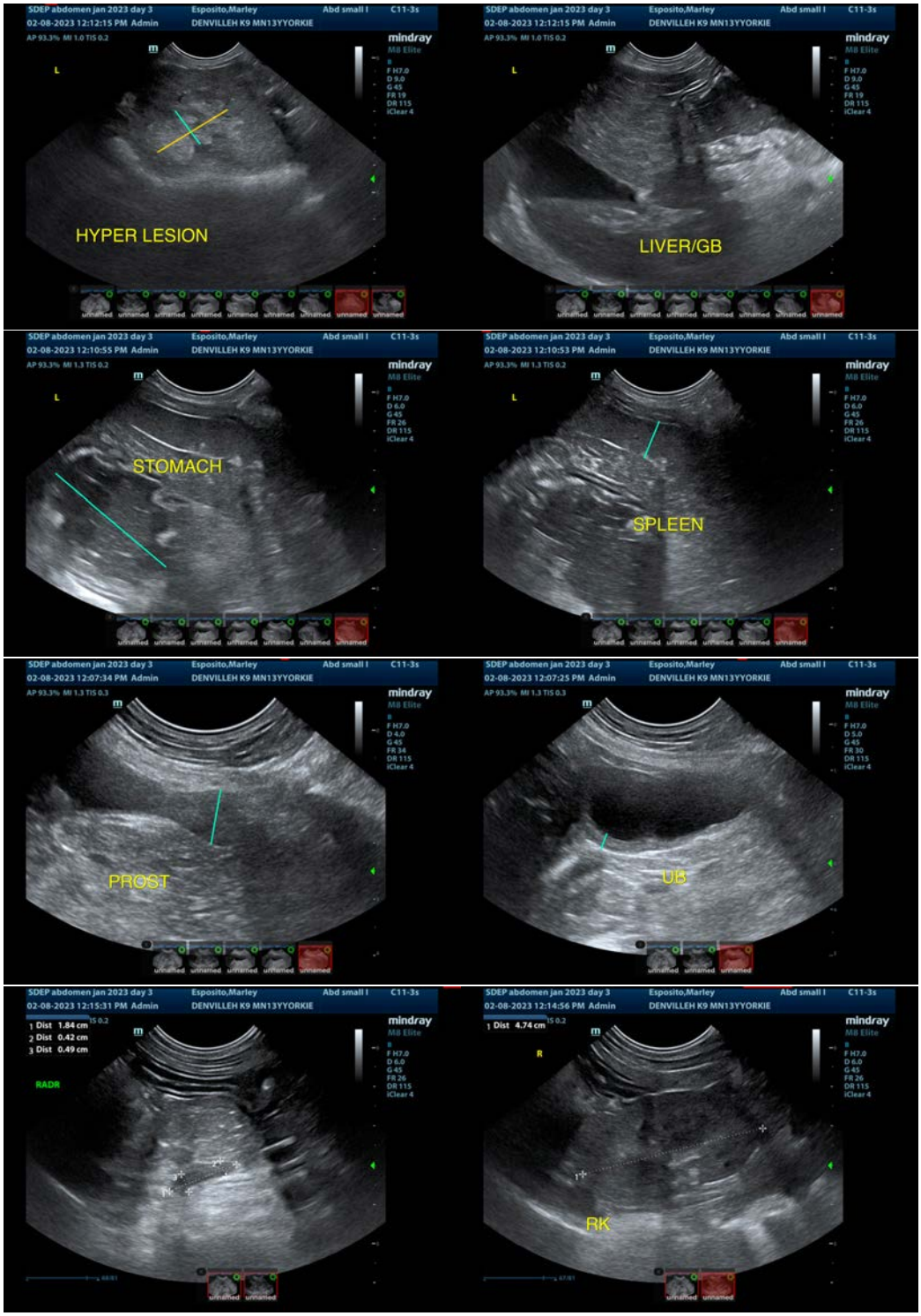

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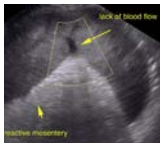
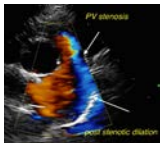
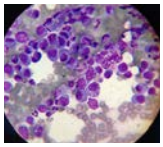
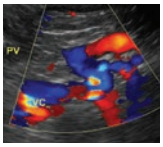

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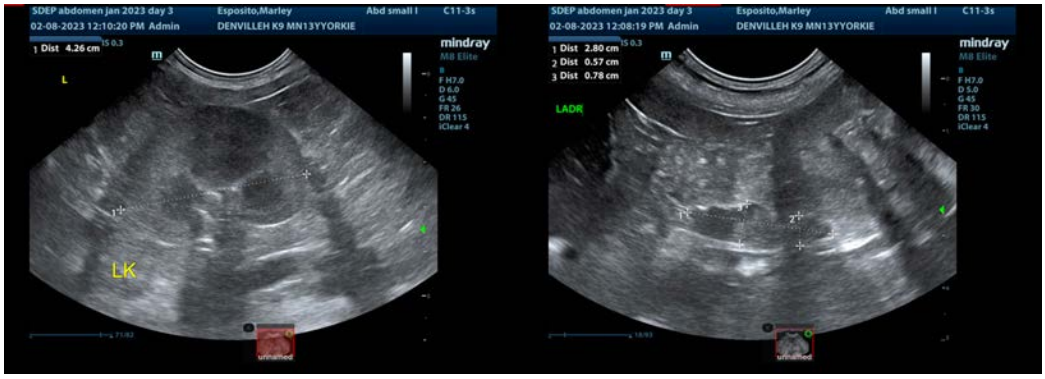

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

kathleen.sennello@sonopath.com