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Clinical Sonography & Telecytology
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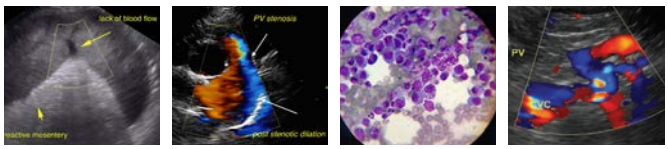

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1-800-838-4268 info@sonopath.com

PATIENT
Birdie Thoming

SPECIES
Canine

BREED
Miniature Pinscher

SEX
Spayed Female

AGE
11 Years

WEIGHT
10.5 Pounds

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

IMAGING PERFORMED BY
Dr. Jessica Bailes

HOSPITAL NAME
All Creatures Great & Small – Corvallis

REFERRING VET
Dr. Jessica Bailes

INVOICE
38041

DATE
5/26/22

PRESENTING CLINICAL SIGNS

Chronic hx of picky appetite and intermittent vomiting. Won't eat any commercial dog food; currently owner makes a home cooked diet w/ vitamin/mineral supplement. Increased drinking/urination; did have hx of inappropriate urination but that has resolved over the last couple of weeks.
Abnormal PE/Chem/CBC/UA Results: Weight loss w/ mild MCS atrophy dorsum. otherwise NSF on PE Bloodwork/urinalysis done 3/22: CHEM: increased ALB (4.8), increased ALT (250), increased ALP (496) CBC: thrombocytosis (453) UA: USG = 1.007; negative proteinuria; 3+ hematuria; IS

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately/mildly distended with anechoic urine. The bladder is largely normal with a smooth mucosal surface and normal thickness. In the area of the trigone, there is a focal mass effect measuring approximately 0.92 cm x 1.55 cm, which is hyperechoic and irregular, and most consistent with a focal bladder mass. Additionally, there is soft tissue visualized within the proximal urethra and dilation of this structure with a thickness of approximately 0.9 cm. This appearance is most consistent with extension of the mass effect into the proximal urethra.

The left kidney has a normal shape and size (3.89 cm) with mild pyelectasia. 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 (4.23 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 0.61 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 0.31 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.

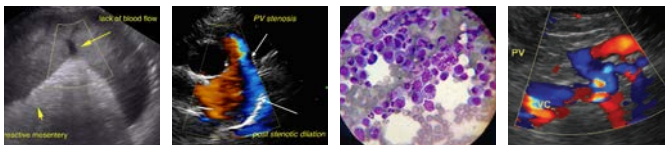
Spleen

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 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. No focal nodules or cystic lesions are observed.

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.



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Gastrointestinal

The stomach is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering 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 measured 0.34 cm. Jejunum wall measured 0.31 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 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

- Hyperechoic mass effect visualized in the trigone region of the urinary bladder with extension into the proximal urethra – The appearance of this lesion is most concerning for a transitional cell carcinoma. An atypical polyp or clot lesion could be considered.
- Decreased corticomedullary distinction in both kidneys with left-sided pyelectasia – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the left kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Heterogeneous 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.
- Mild gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.
- Moderate ingesta/shadowing material within the gastric lumen – correlate with feeding history. If the patient has been adequately fasted, then consider delayed gastric emptying or a partial outflow tract obstruction (none observed).

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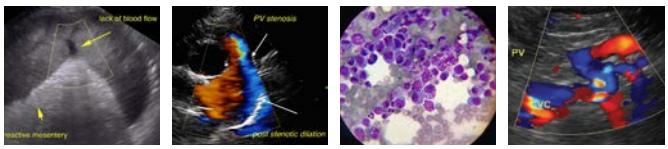

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a mass effect visualized within the trigone region of the urinary bladder with extension into the proximal urethra. This is most concerning for a possible transitional cell carcinoma, but an atypical polyp/granulation tissue or clot are possible. Correlate these findings with a digital rectal exam, as the thickened urethral mass may be palpable. These are my recommendations for further evaluation of a bladder mass.

-Recommend urine evaluation for BRAF mutation seen in patients with transitional cell carcinomas. A positive test is diagnostic, a negative test is inconclusive and will need further diagnostics.

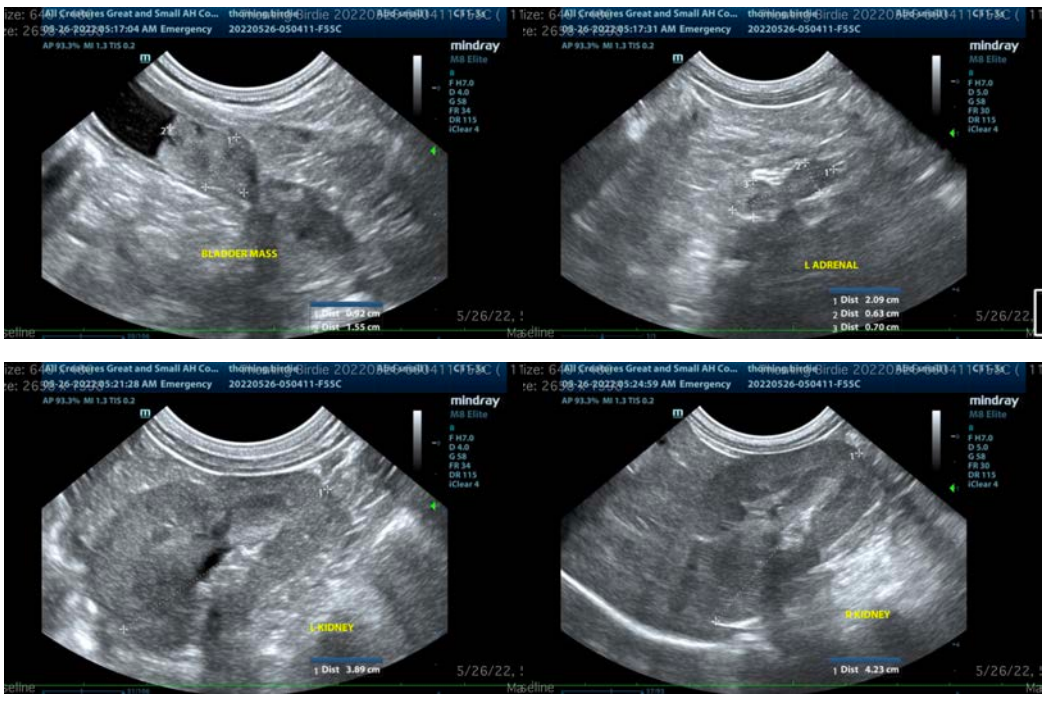
-If negative or non-diagnostic BRAF consider traumatic catheterization to obtain representative cells for cytology, or biopsy sampling via either cystoscopy (if a female) or surgery.

-Patients with bladder pathology should always have urinalysis and culture performed. Ideally cystocentesis should be avoided in patients with suspected bladder masses to try and prevent tracking of tumor cells along the needle path.

-If TCC is confirmed consider referral to/consultation with a board certified. Veterinary oncologist for recommendations regarding treatment options and prognosis.

I suspect the bladder mass findings are correlated with the change in drinking and urinary habits reported. They may or may not be related to the liver enzyme elevations. No focal lesions are visualized in the liver. Considering the urinary changes, I would likely recommend continued monitoring and Denamarin while coming up with a plan. Possible further diagnostics could involve liver function testing and a fine needle aspirate of the liver.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.



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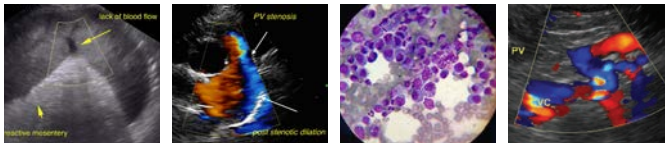

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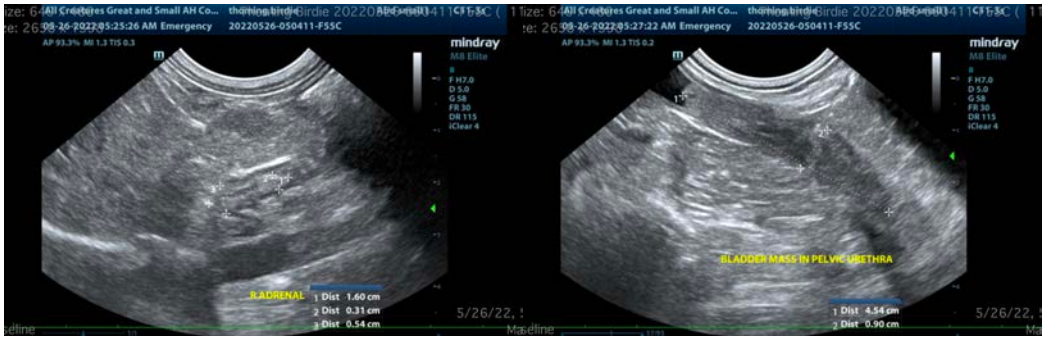

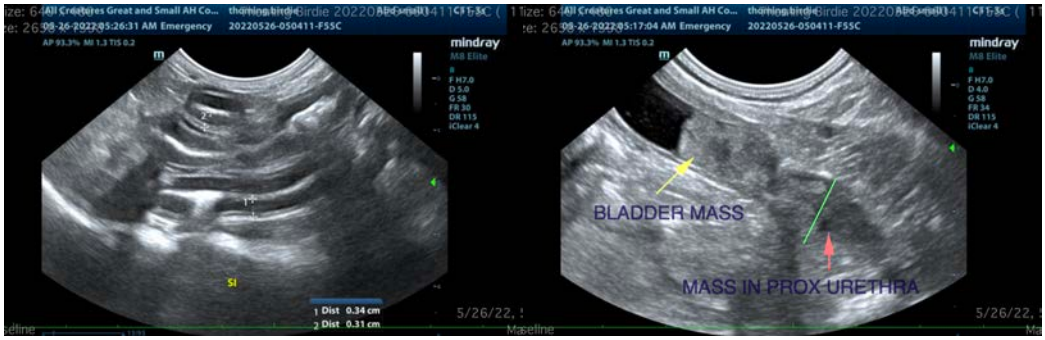

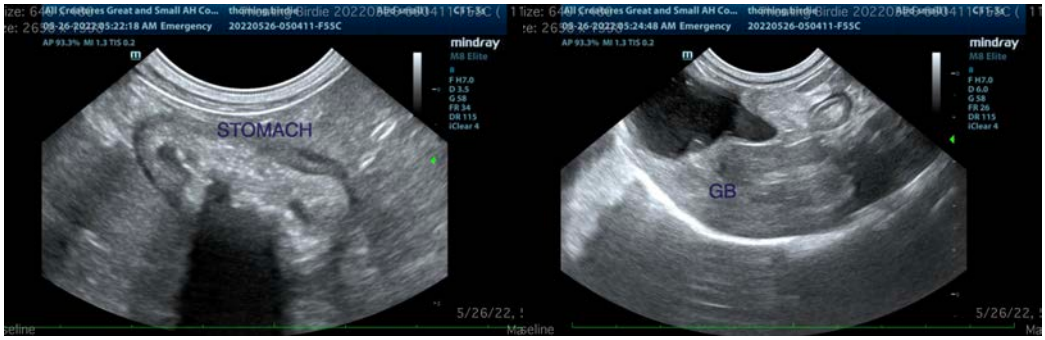

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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