IMAGING PERFORMED BY

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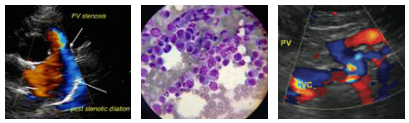

SonoPath
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DATE
2/22/22

PATIENT
Holly Walbrecher

SPECIES
Canine

BREED
Pekingese

SEX
Spayed Female

AGE
12/7/09

WEIGHT
19 lbs

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

HOSPITAL NAME
Animal Medical Center

REFERRING VET
Dr. Chaudhry

INVOICE
96217

PRESENTING CLINICAL SIGNS

The patient has been coming into us for blood in her urine. She has been here about 3 times and it keeps coming back, none of the antibiotics that we send home are helping. She is leaking urine and blood.
Current Medications: None current.
Lab Results: UA (table top): clear/bloody, USG 1.018, pH 7.5, Leukocytes +++, Nitrate neg, Protein ++++, Glucose neg, Ketones neg, Urobilinogen normal, Bilirubin neg, Blood +++.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Declined.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The bladder wall largely appears normal, but there is a very large, solid, intraluminal mass effect visualized. This lesion is solid and vascular. The attachment of the mass effect to the wall is not visualized as the mass effect comes in contact with majority of the wall and occupied approximately 80% of the urinary bladder lumen. There is no obvious evidence of an obstructive process. There are no stones visualized and the proximal urethra appears normal.

The left kidney has a normal shape and size (5.27 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. Pinpoint, non-obstructive nephroliths were noted. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.41 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. Pinpoint, non-obstructive nephroliths were noted. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal/borderline in size measuring 0.87 cm at the cranial pole, 0.88 cm at the caudal pole and 2.4 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat irregular in appearance with occasional hypoechoic nodules, but no major deforming lesions. The vasculature appears normal.

The right adrenal gland is normal/borderline large in size measuring 0.87 cm at the cranial pole, 0.7 cm at the caudal pole and 1.99 cm in length. 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 large 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 gallbladder lumen is

moderately distended. The wall of the gallbladder 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 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 duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 prominent and mottled compared to the surrounding isoechoic 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

PRIMARY FINDINGS:

- Borderline bilateral adrenomegaly with some irregularity of the left adrenal gland. The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended. The left adrenal gland appears somewhat irregular and should be monitored for any evidence of disease progression.

- Large, intraluminal bladder mass. There is a solid bladder mass evident and occupied 80% of the urinary bladder lumen. There was no obvious evidence of a urinary obstruction is visualized. Concern is high for an underlying neoplastic process.

- Large 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.

SECONDARY FINDINGS:

- Decreased corticomedullary distinction in both kidneys with non-obstructive nephroliths. The bilateral renal findings are consistent with age-related change.

- Prominent, mottled pancreas. The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a large bladder mass lesion visualized in the urinary bladder. This is most consistent with a true mass lesion as it appears to have good blood flow, but unfortunately a neoplastic lesion cannot be definitively diagnosed with ultrasound alone.

- 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.

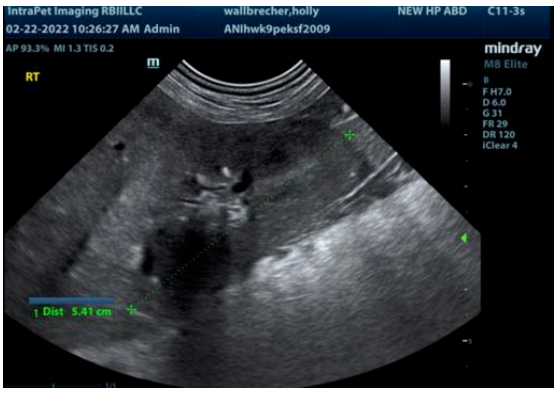
- If TCC is confirmed consider referral to/consultation with a board certified. Veterinary oncologist for recommendations regarding treatment options and prognosis.

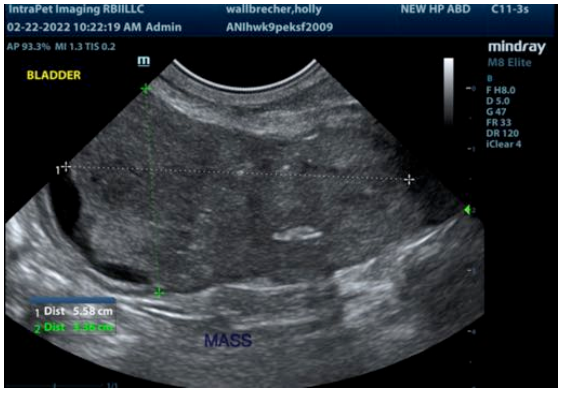
Obtaining urine may be tricky with this patient due to the large size of the mass lesion. The BRAF test is preferable to be performed on a free catch urine sample.

The significance of the changes observed with the adrenal glands is uncertain. Correlate with blood work and clinical findings. Given the appearance of the urinary bladder, I suspect you can consider monitoring particularly of the left adrenal gland to make sure a more distinct mass lesion does not develop.

The liver is somewhat heterogenous. This is a non-specific finding and can be age related. Correlate with blood work to try to determine if this is a significant finding.

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

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BLADDER
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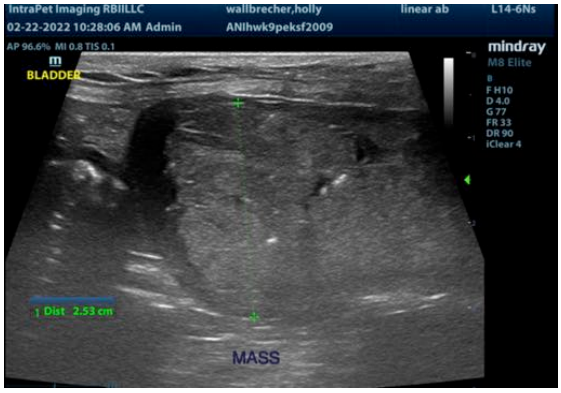
2 Dist 3.36 cm
MASS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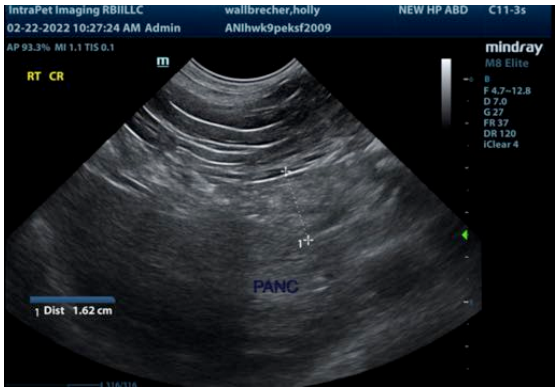
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PANC
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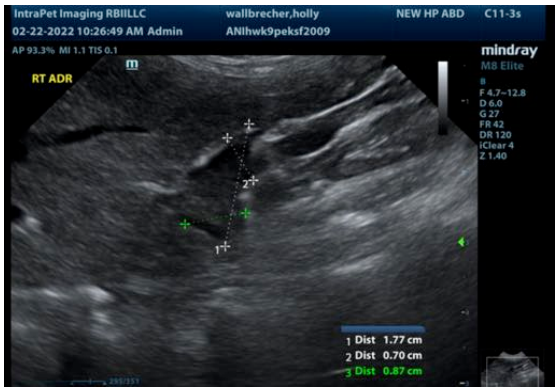
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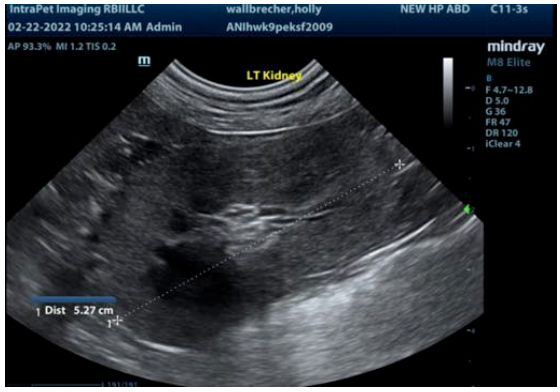
RT ADR
1 Dist 1.77 cm
2 Dist 0.70 cm
3 Dist 0.87 cm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M8 Elite
LT Kidney
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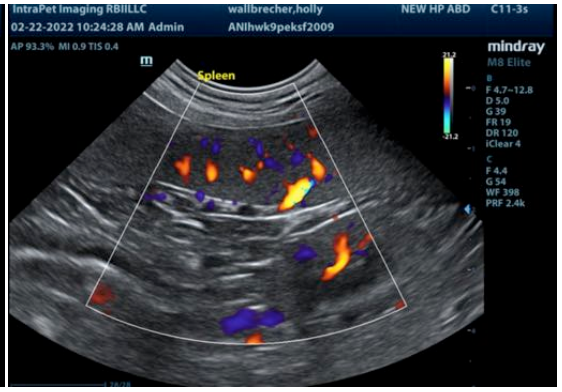
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AP 93.3% MI 0.9 TIS 0.4
mindray
M8 Elite
Spleen


IntraPet Imaging RBIILLC
wallbrecher,holly
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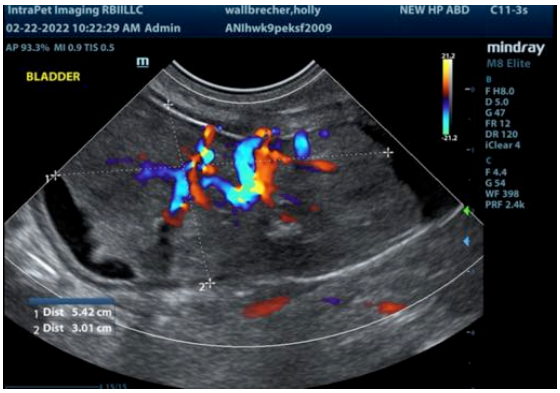
Liver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mindray
M8 Elite
BLADDER
1 Dist 5.42 cm
2 Dist 3.01 cm

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.

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