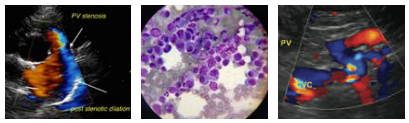
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
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**DATE**
2/8/22

**PATIENT**
Roxy Ford

**SPECIES**
Canine

**BREED**
Scottie

**SEX**
Spayed Female

**AGE**
2/8/11

**WEIGHT**
27 lbs

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

**HOSPITAL NAME**
Madonna VC

**REFERRING VET**
Dr. Brockett

**INVOICE**
95876

## PRESENTING CLINICAL SIGNS

History: hematuria, straining to urinate.
Lab Results: large epith. cells and WBCs in urinary sediment.
Date of Previous IntraPet Ultrasound: No previous IntraPet scans.
Sedation: Not required to complete full diagnostic ultrasound.
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 apical portion of the urinary bladder wall appears somewhat thickened and measures 0.6 cm at maximal width. There are no focal lesions visualized in the area of the trigone. The proximal urethra to a depth of 2.0 cm and the ureteral papillae appear normal.

The left kidney has a normal shape and size (4.51 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.

The right kidney has a normal shape and size (4.92 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. Occasional small cortical cysts were noted. 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 0.62 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 0.7 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 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. There is a solid, hypoechoic mass lesion visualized in the mid body of the spleen and measured 2.93 x 2.1 cm.

### *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. There are occasional, ill-defined nodules visualized in the hepatic parenchyma. There is a large, irregular, hyperechoic, mixed echogenic with some small cystic areas mass effect was visualized on the right side and measured 6.13 x 4.6 cm. Additionally there is a smaller mass lesion visualized measuring 3.17 x 2.85 cm. The gallbladder lumen is moderately distended. The wall of the gallbladder 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 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:**

- Large heterogenous, irregular liver with numerous small hyperechoic nodules/mass effects and a large, irregular, somewhat cystic mass effect visualized on the right 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. The changes observed in the liver could represent benign or malignant change.

- Prominent gallbladder with large amount of intraluminal material and early mucosal striations. The gallbladder changes are most consistent with a developing mucocele. There is no obvious inflammation surrounding the gallbladder.

- Moderate sized hypoechoic splenic mass. There is a non-cavitated, hypoechoic splenic mass visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis

**SECONDARY FINDINGS:**

- Subjective apical wall thickness at the 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.

- Decreased corticomedullary distinction in both kidneys. 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

No focal lesions are observed associated with the urinary tract. I recommend urinalysis and culture. If no infection is present and the symptoms persist then a subtle lesion is possible or a deep urethral lesion not visualized on today's scan. You can consider:

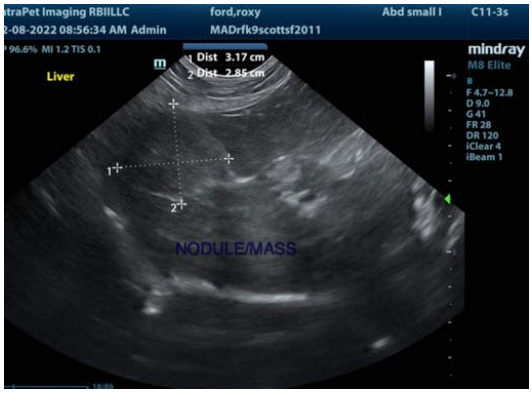
- Consider repeat imaging in 4-6 weeks to see if lesion is progressing.
- Consider urine BRAF test. If this is positive then suspicion for an underlying neoplastic process is increased and if negative this is a non-diagnostic test.
- Consider cystoscopy.

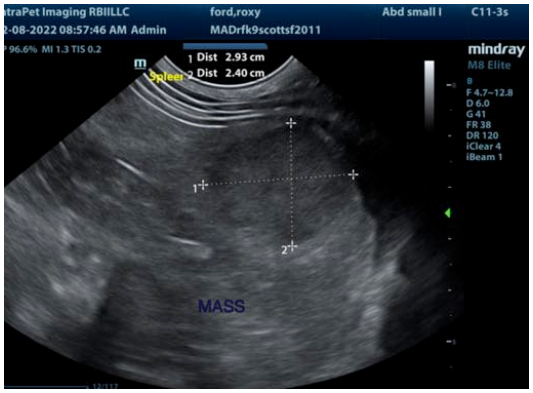
Unfortunately there is a large liver mass present with smaller nodules visualized. These could represent benign lesions such as large regenerative nodules, etc. or could represent underlying neoplastic change. I recommend a FNA of these lesions +/- a CT scan to better evaluate for possible surgical resection. The numerous lesions present make the possibility of surgical resection uncertain.

A splenic lesion is also present. You can consider a FNA or if surgical evaluation of the liver is considered you can consider splenectomy for both therapeutic and diagnostic purposes. There is a possibility that this lesion is related to the nodules on the liver and could represent a metastatic lesion (but it could also be unrelated).

There is a large amount of gallbladder debris starting to organize within the gallbladder. There is no overt inflammation present so I do not suspect that this is a surgical lesion at this time. I recommend to continue monitoring +/- the addition of Ursodiol therapy.

I recommend three view thoracic radiographs.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Spleen
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mindray
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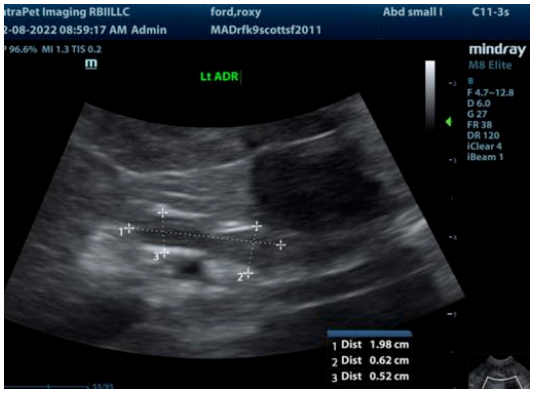
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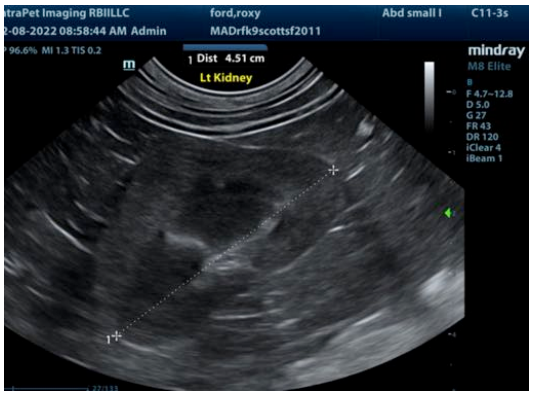
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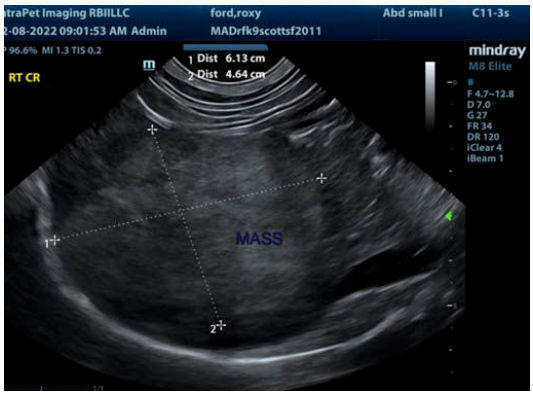
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RT CR
MASS
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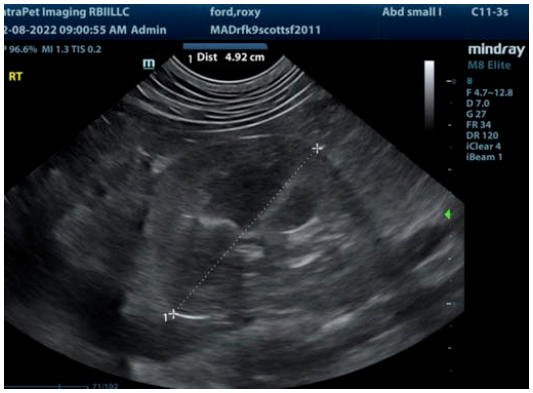
M8 Elite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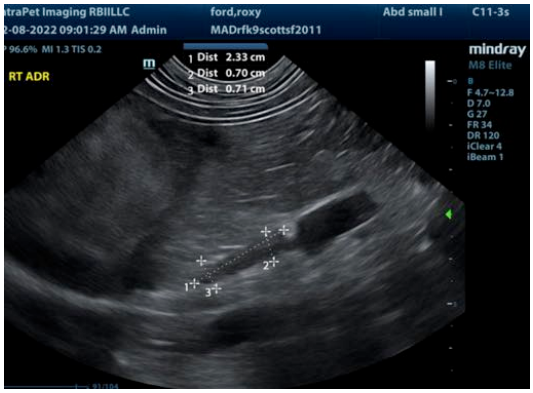
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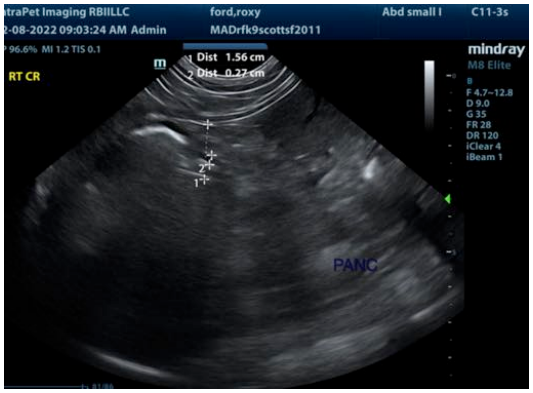


**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

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