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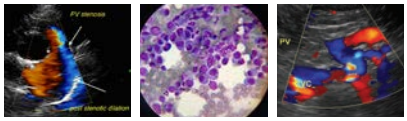

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**DATE**

10/21/21

**PATIENT**

Lily Edwards

**SPECIES**

Canine

**BREED**

Mixed

**SEX**

Spayed Female

**AGE**

2009

**WEIGHT**

45 Pounds

**INTERPRETED BY**

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

**HOSPITAL NAME**

Bayside AMC

**REFERRING VET**

Dr. Buchanan

**INVOICE**

26581

## PRESENTING CLINICAL SIGNS

Increasing PU/PD and urinary accidents. BW revealed anemia, azotemia and elevated LES.

Current Medications: Amoxicillin 250mg, Enrofloxacin 68mg
Lab Results: Attached
Radiographs: N/A
Date of Previous IntraPet Ultrasound: No previous
Sedation: not needed
Stat Report: not requested

## 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 (6.98 cm) with pyelectasia at 0.82 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (6.01 cm) with pyelectasia of 0.55 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

### *Adrenal Glands*

The left adrenal gland is normal in size measuring 0.74 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 large in size measuring 1.06 cm at the cranial pole, 1.2 cm at the caudal pole, and 2.84 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 abnormal in appearance, in that there is a hyperechoic bulging nodule in the middle of the adrenal gland, measuring 1.44 cm x 1.46 cm, creating a mass effect. There is no overt evidence of vascular invasion or surrounding inflammation.

### *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 multilobulated cystic mass effect within the parenchyma of the spleen, measuring approximately 3.57 cm x 5.7 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 is a 3.99 cm x 4.69 cm ill-defined, hyperechoic nodule visualized within the parenchyma.

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 large amount of primarily non-organized echogenic debris, but some of

this debris is starting to organize and is giving the appearance of an early mucocele. There is no evidence of bile duct dilation.

### *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. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed. Jejunum wall measured 0.27 cm. There is mild mucosal speckling visible.

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.

### *Other*

A brief view of the heart was submitted. No significant pericardial effusion was seen.

## PRIMARY FINDINGS

- Decreased corticomedullary distinction in both kidneys with significant pyelectasia – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia of the left/right kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

- Mottled spleen with cystic mass effect – 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.

- Heterogeneous liver with ill-defined, hyperechoic mass effect – 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.

- Early gallbladder mucocele – There is a large amount of gallbladder debris present, but with early evidence of organization into a mucocele.

- Hyperechoic right-sided adrenal nodule –Right adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.\

## SECONDARY FINDINGS

- 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.

- Mild mucosal speckling of the small intestine – Bright mucosal speckling has been proposed to represent dilated lacteals or focal accumulation of mucus, cellular debris etc.. in the mucosal crypts of the small intestine.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are many ultrasonographic lesions visualized, some of which may be ge related and normal for this patient. Of primary concern would likely be the renal changes. Recommend urinalysis and culture and blood pressure evaluation. If clinically appropriate, consider Leptospirosis testing.

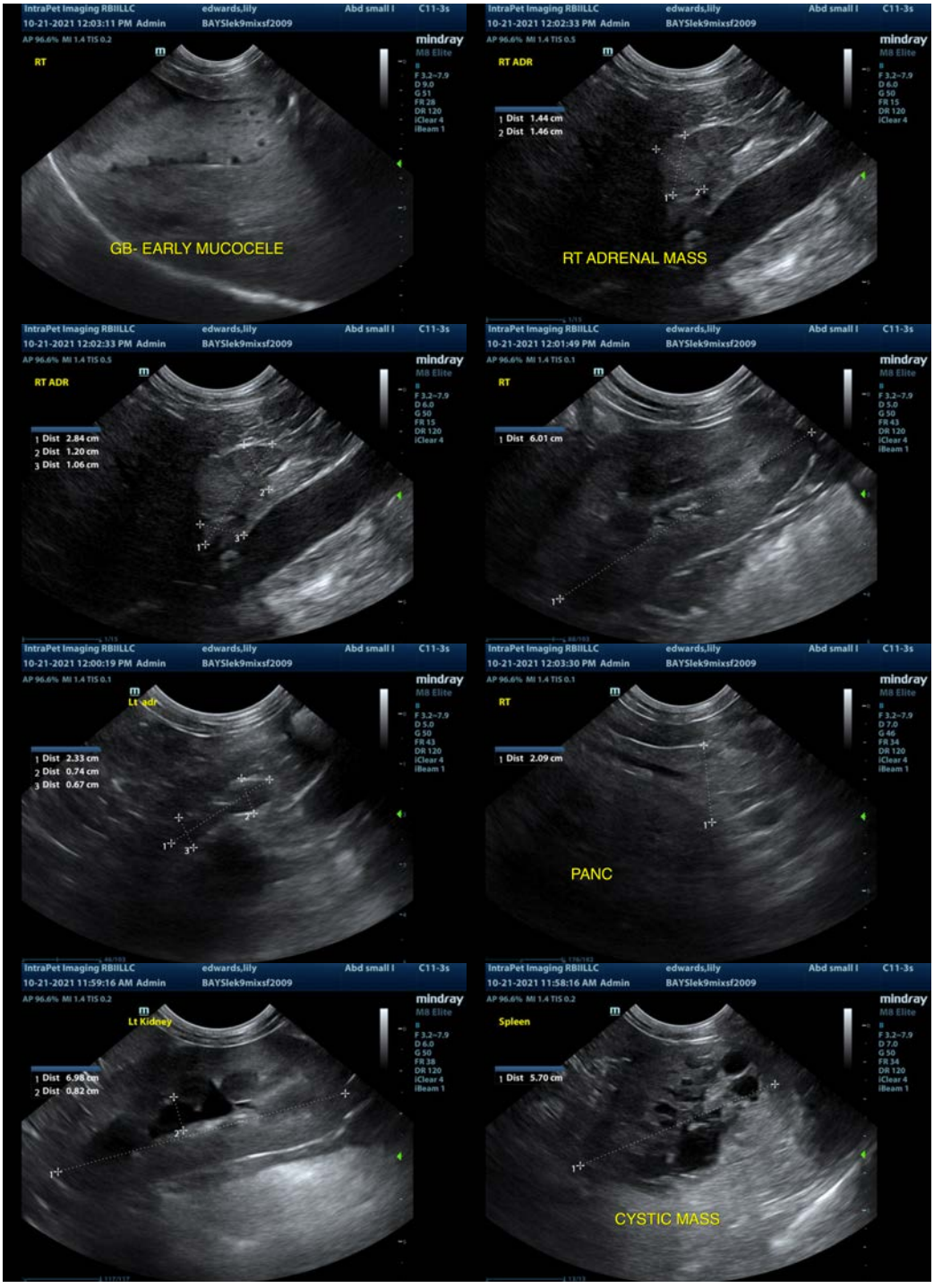
Additonally, the liver is heterogeneous and has an ill-defined mass effect and there is a right-sided adrenal mass. These changes correlate with the liver enzyme elevations reported. The gallbladder has a large amount of sludge and has the appearance of an early gallbladder mucocele. There is no surrounding inflammation. Consider starting Ursodiol and monitoring this with ultrasound, as surgical intervention may be necessary if this progresses.

There is nodule present on the right adrenal gland. This nodule is relatively small and is not deforming the adrenal gland significantly and doesn't appear to have any evidence of vascular invasion.
These nodules can be benign or malignant and can secrete hormones or be non-active. Options moving forward include:

- If signs of cushings are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)
- If adrenal dependent cushings is suspected and supported by adrenal function testing consider medical therapy with lysodren or trilostane or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- If no symptoms of cushings are present, consider either referral for surgery or continued monitoring with ultrasound (in 3-4 months).
- Many of these nodules can be benign and incidental in nature, unfortunately that is difficult to determine with a single ultrasound.
- You could consider liver function testing and a fine needle aspirate of the liver to further evaluate the liver enzyme elevation.

A cystic splenic mass is visualized. I suspect a fine needle aspirate would be unhelpful due to the cystic nature of this lesion. Consider splenectomy for both diagnostic and therapeutic purposes. Once the adrenal nodule is fully worked up, you could consider referral toa veterinary surgeon for removal of the spleen and right adrenal gland.

Recommend 3-view thoracic radiographs for evaluation of possible metastasis and concurrent intrathoracic disease.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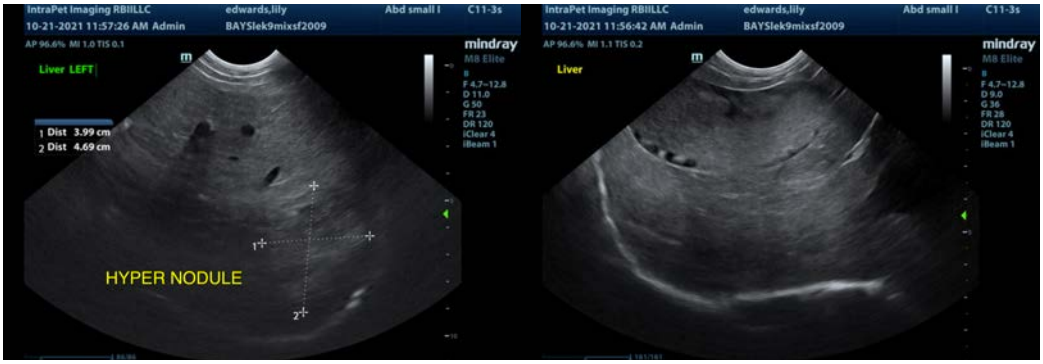
CYSTIC MASS




**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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kathleen.sennello@sonopath.com