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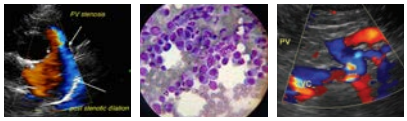

SonoPath

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DATE

11/30/22

PATIENT

Cutie Bostian

SPECIES

Canine

BREED

Chihuahua

SEX

Spayed Female

AGE

6/17/11

WEIGHT

14.25 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Westminster VH

REFERRING VET

Dr. Hall

INVOICE

43061

PRESENTING CLINICAL SIGNS

Pet seen for routine senior exam 07/27/22. At this appointment owner noted that pet had been acting ravenous at home. On exam she was overweight. A grade 4/6 systolic murmur was noted. Bloodwork was recommended (see results). A LDDST was suggested but due to pet's high anxiety while in this environment and owner's work schedule an ACTH stimulation test was completed. This was suggestive of Cushing's disease. An abdominal US was recommended prior to starting treatment.
Owner called on 11/16/22 and reports that pet is trying to get into the trash as she is so polyphagic. She is also urinating in the house and drinking a lot of water. Discussed bloodwork with her again and suspect hyperadrenocorticism and recommend abdominal US prior to starting treatment, owner agrees.

Current Medications: None.
Lab Results: 10/1/22: ACTH Stimulation Test: Cortisol Pre-ACTH: 6.3ug/dL; Cortisol post ACTH: 31.5ug/dL. 8/23/22: Urine Protein: Creatinine Ratio: 1.5. 7/27/22: Snap 4dx: NEGATIVE X 4; CBC: reticulocytes: 154K/uL (10-110); Chemistry: ALP: 475U/L (5-160); Cholesterol: 418mg/dL (131-345); UA: 1+protein; USG: 1.018

Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
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, or masses. In the dependent portion of the urinary bladder, there are several hyperechoic shadowing foci most consistent with small stones. I suspect there are at least 3, measuring approximately 0.34 cm, 0.41 cm, and 0.14 cm.

The left kidney has a normal shape and size (4.5 cm) with non-obstructive nephroliths, one of which measures at 0.22 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, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.43 cm) with small non-obstructive nephroliths. 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, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is borderline large, 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 borderline large, measuring 0.80 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 in size, and normal in 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 large hyperechoic nodule/mass visualized within the parenchyma measuring 2.61 cm x 2.46 cm.

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 large amount of shadowing ingesta. 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 0.34 cm. Jejunum wall measures 0.27 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 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.

PRIMARY FINDINGS

- Hyperechoic shadowing mineralizations within the urinary bladder – Findings are consistent with bladder stones. Recommend urinalysis and culture.

- Borderline “plump” adrenal glands – 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.

- Decreased corticomedullary distinction in both kidneys with small non-obstructive nephroliths – The bilateral renal findings are consistent with age-related change. The hyperechoic mineralized foci observed at the corticomedullary junction of the left/right kidney are consistent with small, non-obstructive nephroliths.

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.

- Large, heterogeneous liver with a hyperechoic nodule/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. The appearance of the hyperechoic lesion described is most consistent with a benign nodule but is rather large and should be monitored closely.

- 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.

- Large shadowing ingesta within the gastric lumen – Findings are most consistent with a recent meal. Shadowing ingesta interferes with full evaluation of the stomach and cranial abdomen.

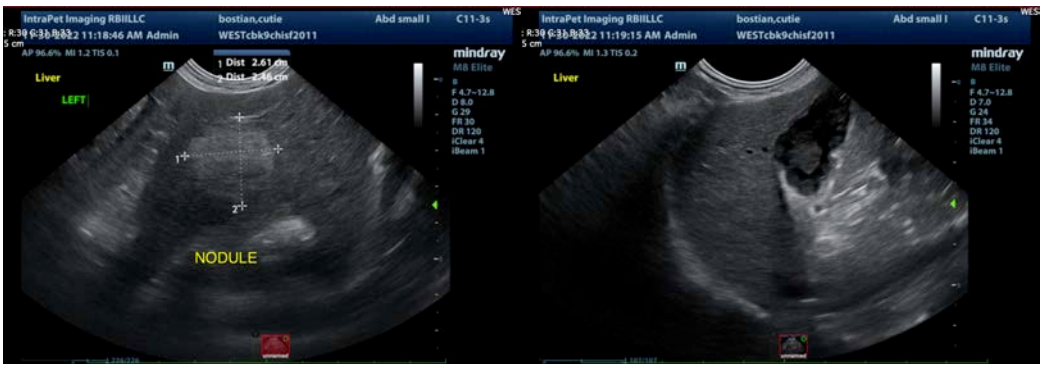
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

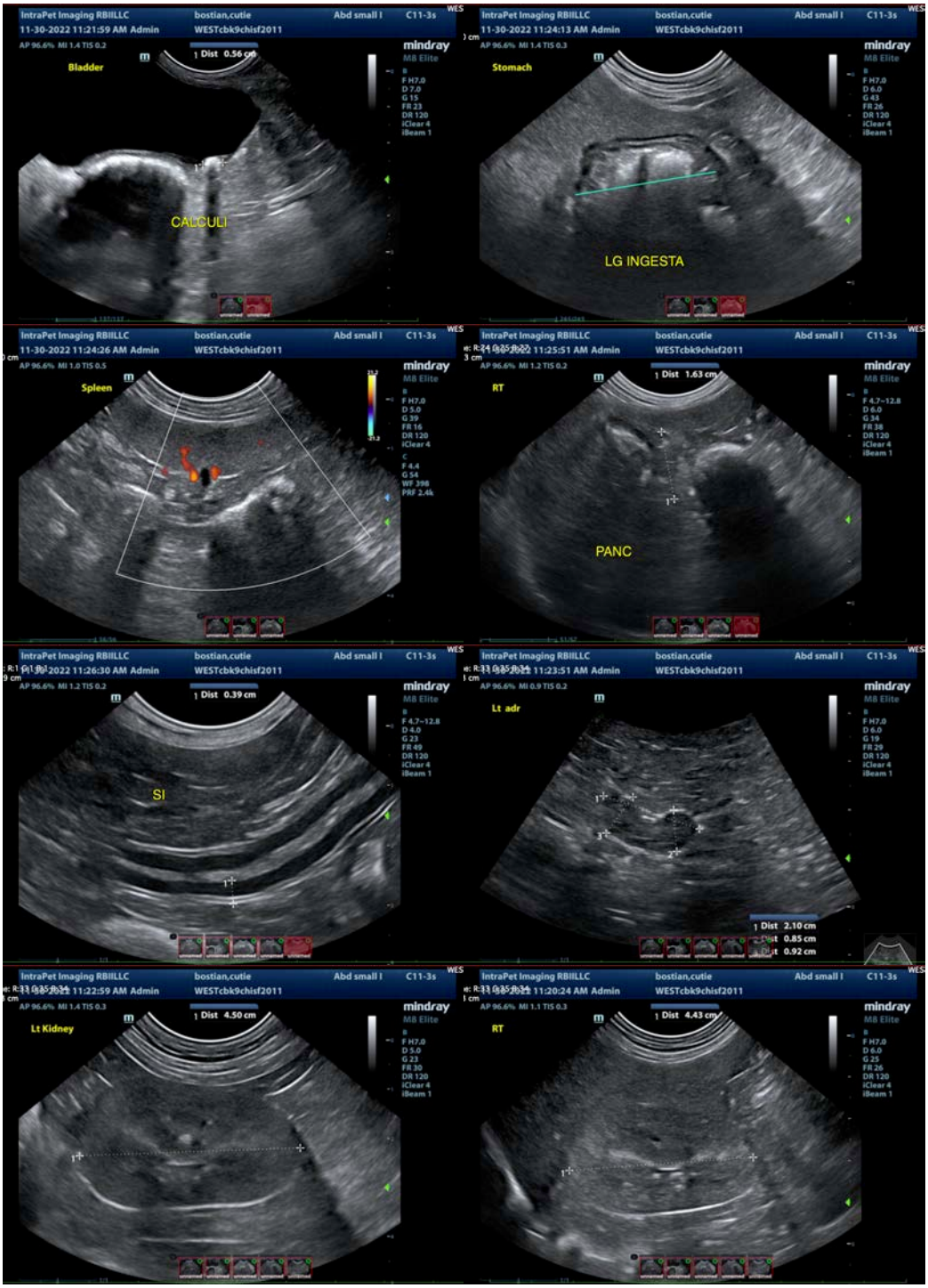
The adrenals are both plump in size and the liver is heterogeneous. Given the elevated ACTH stimulation test and the symptoms consistent with Cushing's, if the clinical picture fits, treatment would be a reasonable option. Additionally, there is hyperechoic lesion within the liver. The appearance of this lesion trends towards a more benign process, but this should be monitored closely +/- fine needle aspirate.

There are multiple small stones visualized within the urinary bladder. Correlate these findings with abdominal radiographs to evaluate the size and number of stones present. Some of these may be small enough to pass. Recommend urinalysis and culture and close monitoring for evidence of obstruction and/or discomfort, necessitating a cystotomy. Alternately, if these are believed to be struvite, dissolution could be considered, or possible voiding hydropulsion if they are very small.

The changes observed in the kidneys are most consistent with age related chronic renal disease. Recommend blood pressure and the aforementioned urinalysis and culture to obtain a baseline.

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

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LG INGESTA
Spleen
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PANC
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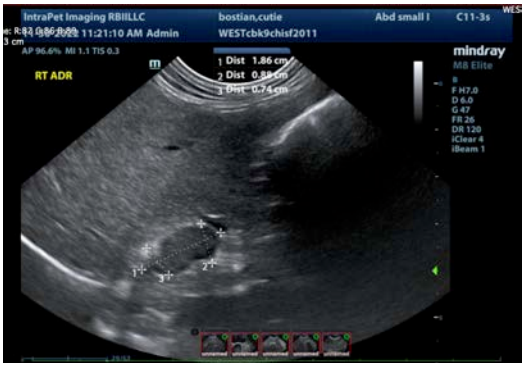
RT
Dist 4.43 cm



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