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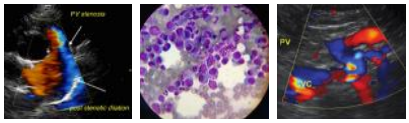
IntraPet.com



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DATE

1/26/23

PATIENT

Daisy Spear

SPECIES

Canine

BREED

Shih Tzu

SEX

Spayed Female

AGE

1/25/2008

WEIGHT

19.2 Pounds

INTERPRETED BY

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

HOSPITAL NAME

Hickory VH

REFERRING VET

Dr. McNesby

INVOICE

20794

PRESENTING CLINICAL SIGNS

Patient presented 12/9/22 for gross hematuria. U/A at that time demonstrated hematuria, but no bacteriuria. Treated with Clavamox x 10 days. Recheck U/a after finishing antibiotics, owner reported some improvement with antibiotics, but then began intermittently urinating in the house. U/A showed hematuria, suspicious for bacteriuria. Clavamox repeated pending urine c/s. Urine C/S negative, but owner felt symptoms improved on Clavamox - continued Clavamox x 10 days total. Few days after finishing Clavamox owner reported symptoms returning - increased frequency and urgency of urination.

Current Medications: Metacam (dosed according to current weight) Q 24 hours PRN, Gabapentin 100 mg Q24 hours at bedtime
Lab Results: Elevated ALKP, Elevated Calcium (rechecked and resolved 12/9/22).
Date of Previous IntraPet Ultrasound: No previous.
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 primarily suspended echogenic debris, as well as dependent mobile sandy debris present. The bladder wall appears focally thickened in the mid ventral portion of the urinary bladder, creating somewhat of a mass effect, measuring approximately 2.35 cm x 0.77 cm. This lesion is somewhat mineralized with a mineralized area measuring approximately 0.45 cm in diameter. The region of the trigone, ureteral papilla and visible urethra to a depth of 2.0 cm appear normal with no evidence of wall thickening or mucosal irregularities. There are occasional small bits of sandy debris visualized.

The left kidney has a normal shape and size (4.12 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. Nonobstructive nephroliths were present, one of which measures at 0.2 cm.

The right kidney has a normal shape and size (4.31 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. Small nonobstructive nephroliths were present.

Adrenal Glands

The left adrenal gland is somewhat large and irregular, measuring 0.54 cm at the cranial pole and 0.79 at the caudal pole x 1.92 cm in length. It is observed in its normal position cranial to the left renal artery. It is abnormal in appearance in that there is a hyperechoic nodule in the caudal pole, measuring approximately 0.72 cm x 0.63 cm. No evidence of vascular invasion is visualized.

The right adrenal gland is normal in size measuring 0.6 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 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. There are numerous ill-defined hypoechoic nodules visualized within the parenchyma, measuring approximately 0.5 cm – 2.0 cm.

The gall bladder lumen is moderately distended. The wall of the gall bladder 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 <0.7 cm 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 (0.51 cm in wall thickness) and the jejunum measured as normal (0.36 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.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Irregular mineralized ventral wall of the urinary bladder, concerning for a mass effect. Additionally, there is a large amount of sandy mineralized debris. TCC would be the primary differential but other possibilities exist.

- Hyperechoic nodule in the caudal pole of the left adrenal gland. Left adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.

- Large heterogenous liver with ill-defined hypoechoic nodules. 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 nodules observed trend toward a more benign process but underlying neoplasia cannot be ruled out.

Secondary Findings

- Decreased corticomedullary distinction in both kidneys with numerous nonobstructive 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

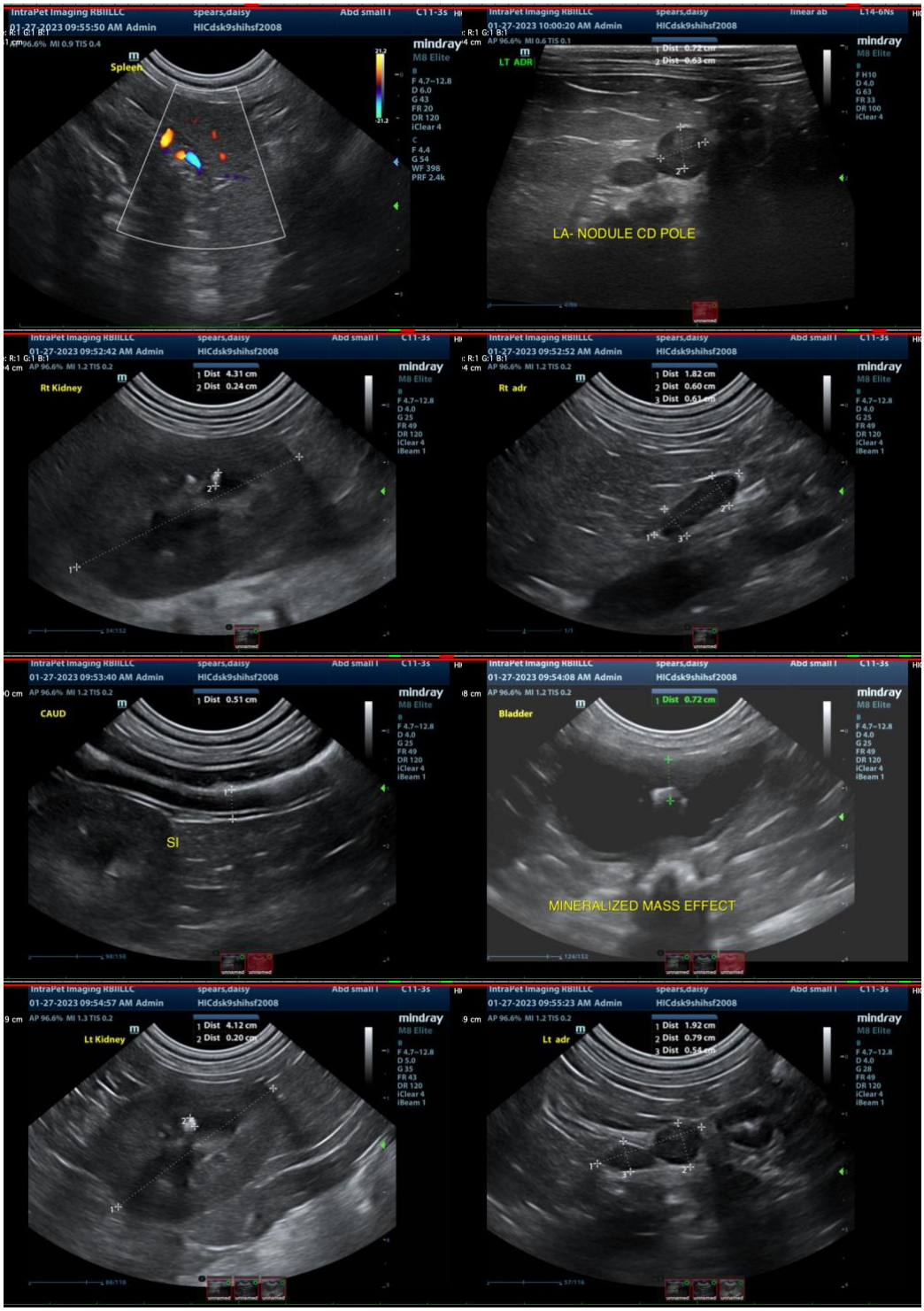
There is a mineralized ill-defined mass effect visualized in the ventral portion of the urinary bladder. This is concerning for a TCC. Alternate differentials would be severe focal cystitis and mineralization of the tissue but this is less likely. Consider a traumatic catheterization with cytology on the urine or even a cytology on a free catch urine sample if it is highly cellular. If a diagnosis cannot be obtained this way, options would include a traumatic catheterization, cystoscopy, or you could consider a urine BRAF test; if the test is positive, it would greatly increase the likelihood that this is a transitional cell carcinoma, if the test is negative, the test is nondiagnostic and additional testing would be necessary.

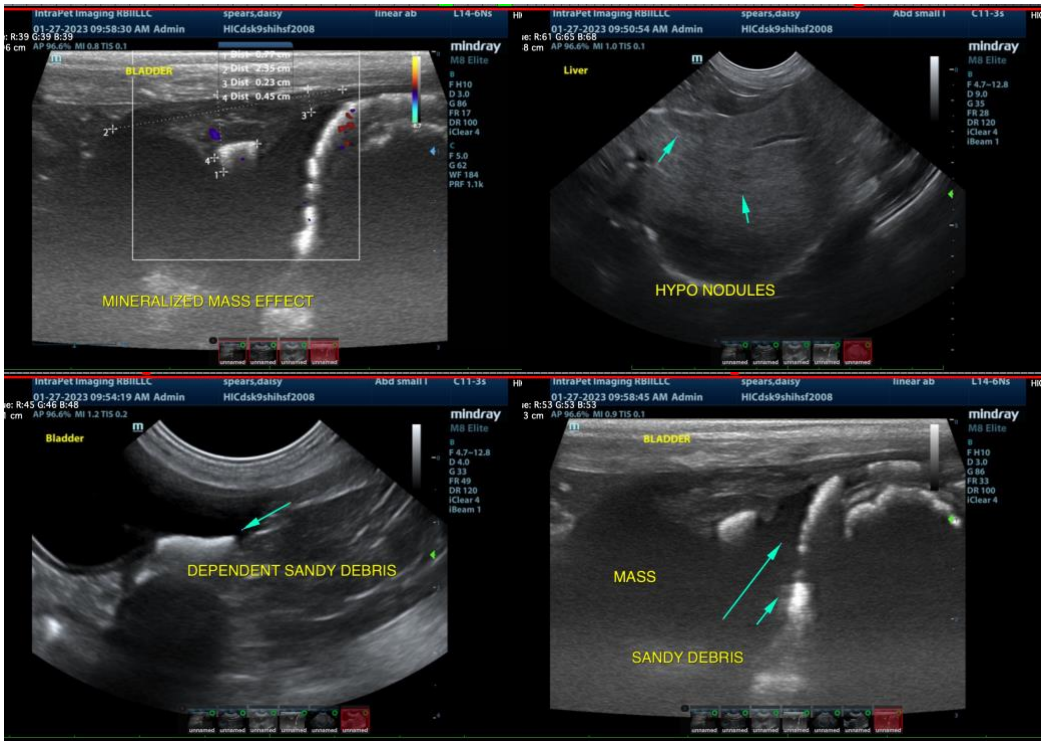
Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

There is a hyperechoic nodule in the caudal pole of the left adrenal gland. There is no evidence of invasion visualized. This could be benign or an early malignant lesion, as well as it could be secreting hormones or be nonsecretory. If signs of Cushings disease are present, I would consider adrenal function testing. Additionally, I would recommend a blood pressure evaluation and catecholamine levels if hypertension is present. Given the findings in the urinary bladder, this could be monitored with ultrasound. Alternately, if more aggressive approach is desired, a contrast CT scan could be considered for possible surgical removal.

The liver appears somewhat large and heterogenous with ill-defined nodules. The nature of these nodules appears more benign, but continued monitoring is warranted. Additionally, you could consider a fine needle aspirate.

The changes observed in the kidneys are consistent with chronic progressive age-related change. I recommend a blood pressure evaluation, urinalysis and culture as a baseline.


Spleen
LT ADR
LA- NODULE CD POLE
Rt Kidney
Rt adr
CAUD
SI
Bladder
MINERALIZED MASS EFFECT
Lt Kidney
Lt adr



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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