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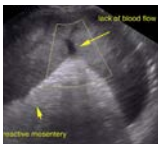
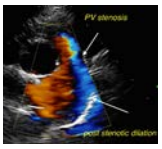
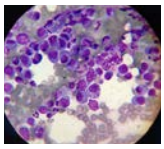
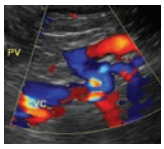

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PATIENT
Lexi Terry

SPECIES
Canine

BREED
Mix

SEX
Spayed Female

AGE
12 Years

WEIGHT
12.8

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

IMAGING PERFORMED BY
Dr. Isabel Plourde

HOSPITAL NAME
TotalBond Vet Hospital

REFERRING VET
Dr. Isabel Plourde

INVOICE
24525

DATE
8/10/21

PRESENTING CLINICAL SIGNS

Pt has a history of both Cushings, Diabetes and KCS. She has a past history of urolithiasis. Pt presented on Friday for significant hematuria and polakiuria. Unable to visualize bladder well on ultrasound on Friday as bladder was small. Started pt on antibiotics and UA consistent with UTI. Pt initially responded and polakiuria has resolved, but hematuria returned yesterday. Urine culture is pending. Pt on Trilostane, insulin, Cyclosporin eye drops, Apoquel and Simplicef
Abnormal PE/Chem/CBC/UA Results: PE- cataracts, hepatomegally, KCS, dental disease UA (free catch)- USG 1.030, protein 3+, glucose trace, blood 3+, WBC 4-10, RBC 21-50, rods 26-50, UPC 10.5

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is mildly/moderately distended with echogenic urine. The Bladder wall appears diffusely mildly thickened and irregular with too numerous to count, small mineralizations evident, most consistent with small bladder stones, but cannot exclude the possibility of mineralized, irregular tissue. There is no evidence of significant pathology involving the visible urethra up to 2.0 cm in depth.

The left kidney has a normal shape and size (4.69 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. Moderate pyelectasia noted at 0.4 cm with rare pinpoint, non-obstructive nephroliths. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.56 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. Mild pyelectasia noted at 0.15 cm and pinpoint, non-obstructive nephroliths. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.53 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 region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. No evidence of a mass effect.

Spleen

The spleen is subjectively normal in size. The echotexture is heterogeneous, largely due to the presence of hyperechoic pinpoint shadowing foci, which do not appear to be shadowing significantly. There are no large focal abnormalities visualized. Blood flow through the hilus and splenic parenchyma appears normal.

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. No focal nodules or cystic lesions are observed.

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 severe amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

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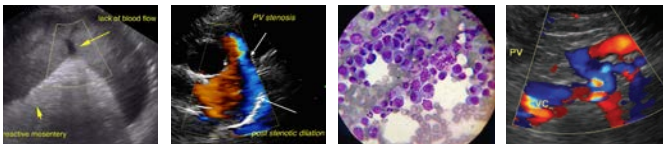

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Gastrointestinal

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. Duodenum wall measured 0.34 cm. Jejunum wall measured 0.33 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 normal and isoechoic to surrounding 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

There is a 3.4 cm isoechoic structure evident in the left cranial abdomen between the spleen and liver. Suspect this is fatty tissue (possible lipoma), but I cannot rule out the possibility of a mass effect originating from the liver or spleen. No direct connection to these structures is visualized.

PRIMARY FINDINGS

- Diffusely thickened urinary bladder with too numerous to count mineralizations – this is consistent with cystitis and small stones. Correlate with radiographs and pending culture and sensitivity results, re-image when infection is better controlled.
- Decreased corticomedullary distinction in both kidneys with pyelectasia and non-obstructive nephroliths – 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.
- Heterogeneous 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. This is a very common finding in both Cushing's pets and pets with diabetes.
- Large amount of gallbladder sludge with early organization. There is no inflammation surrounding the gallbladder, and the wall appears normal, but this could develop into a mucocele.

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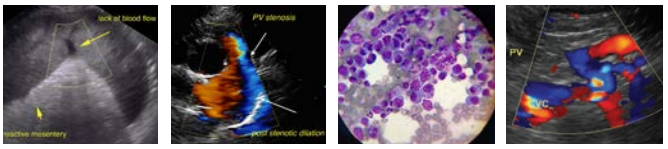

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ULTRASONOGRAPHIC FINDINGS

- Numerous hyperechoic foci in the spleen – findings are diffuse and favor a benign etiology, but I cannot rule out a neoplastic process. Cytology or histopathology would be necessary to obtain a definitive diagnosis.

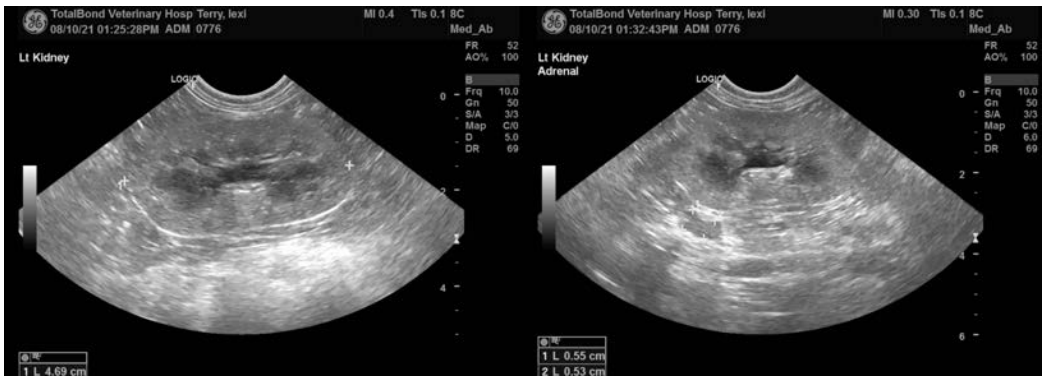
- Isoechoic mass effect in left cranial abdomen – suspect this is a lipoma, but I cannot rule out splenic or hepatic origin. Consider fine needle aspirate.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The bladder wall changes are diffuse, and are likely most consistent with cystitis. Given the pet's medical history, she has a high risk for urinary tract infection complications and resistant infections. Additionally, there is some dilation of the kidneys, which could be consistent with the PU/PD likely present, but could also be seen with pyelonephritis. Correlate these findings with abdominal radiographs to better determine the number and size of stones present. If consistent with struvite, there is a chance they could improve with resolution of a urinary tract infection.

These cases can be very challenging, because urinary tract recurrence is high if the diabetes and/or the Cushing's is not well controlled. Urinalysis and cultures need to be repeated diligently due to the risk of developing resistance. Empirical therapy should be avoided. Consider starting a probiotic due to likely frequent and/or long-term antibiotic use, and evaluate the external anatomy for any predisposing factors (hooded vulva, etc.). Consider reevaluation of the urinary bladder mid therapy in hopes of catching it more full and a stage where it can be more easily visualized. I cannot rule out neoplasia at this time, but suspect we are dealing with cystitis.

The additional abnormalities described are likely age related and/or disease related, and they are non-specific. You could consider a fine needle aspirate of the mass effect in the left cranial abdomen. I suspect it is fat, but cannot say for certain. Additionally, you could consider a fine needle aspirate of the spleen, but I suspect these are benign changes.



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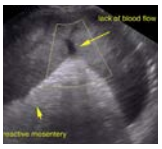
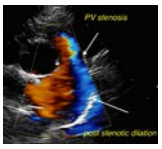
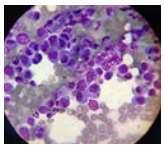
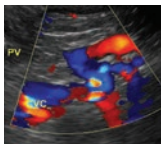

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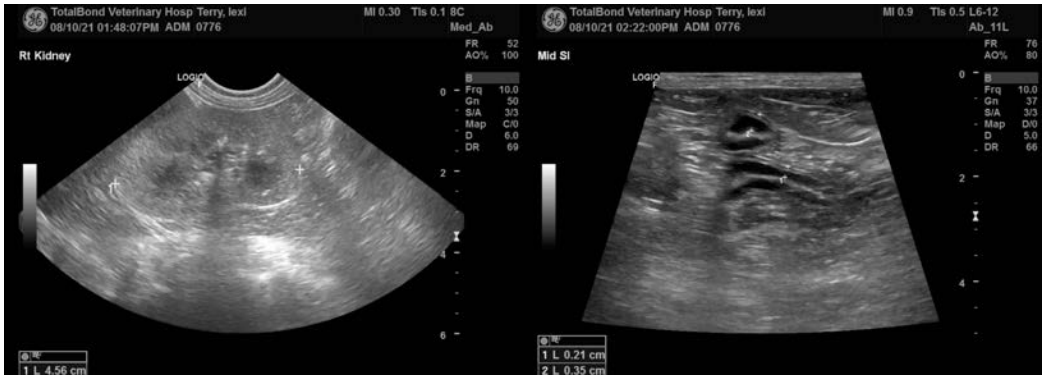

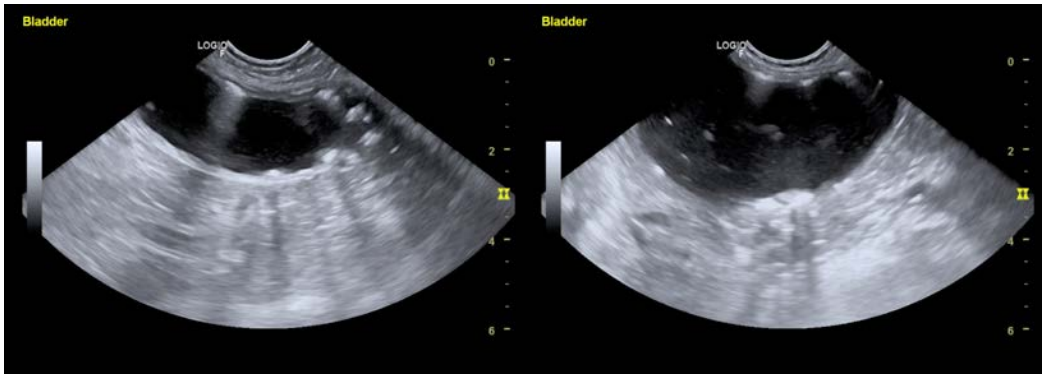

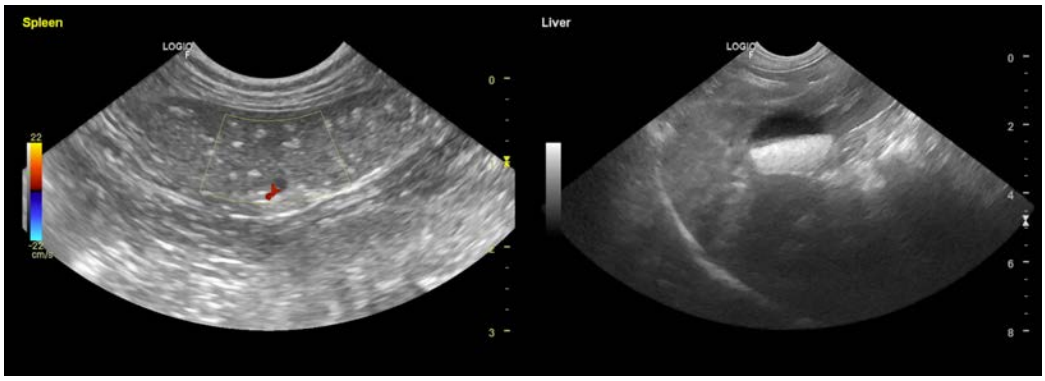

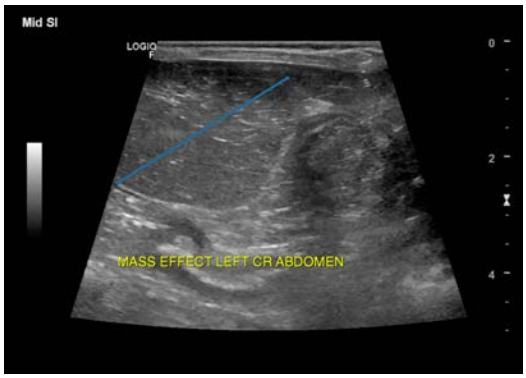

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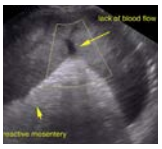
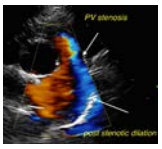
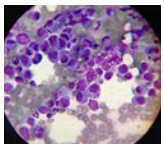
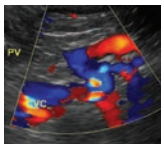

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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