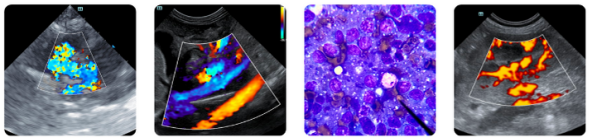


PATIENT

Zoey Murphy

SPECIES

Canine

BREED

Shih Tzu/Malti-Poo

SEX

Spayed Female

AGE

14 years 3 months

WEIGHT

9.6 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Katelyn Mazzochette

HOSPITAL NAME

Airpark Animal Hospital

REFERRING VET

Dr. Katelyn Mazzochette

INVOICE

11187

DATE

1/28/2026

PRESENTING CLINICAL SIGNS

- Hx of recurrent vs not fully resolved severe E.coli UTI (initially dx Nov 2025 - p had neutrophilia with left shift at the time) despite treating based on culture (initially had Zoey on amoxi/clav but this showed borderline intermediate resistance so switched to cefpodoxime per sensitivity results. Treated for 2 weeks and p clinically improved however recheck UA was still mildly inflammatory, treated again for another 4 weeks but UA still inflammatory. Was planning on doing cysto with culture and bladder imaging tomorrow but p acutely developed stranguria, pollakiuria, hematuria with vomiting and lethargy in the past 24 hours. Urine culture via cysto pending (obtained after today's scan).
- Hx of CaOx urolithiasis and two cystotomies despite strict diet of Urinary SO, added in potassium citrate after most recent cystotomy in Jan 2024.
- Other pphx: suspected microvascular dysplasia per IMED workup in 2018, has been on denamarin since.

Abnormal PE/Chem/CBC/UA Results: On rectal palp, able to palpate small (2-3mm?) firm/irregular stone-like structure within proximal urethra just beyond brim of the pelvis. Unable to reliably confirm presence with radiographs given superimposition with other structures. BW today: CBC- mild neutrophilia 14.97k Chem- ALKP 406 Pancreatic lipase WNL UA: USG 1.034, pH 6.0, trace proteinuria, severe hematuria/pyuria with >50 WBCs/RBCs per HPF, rods and cocci present as well as small amount of CaOx crystals. Urine culture pending.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with mildly echogenic urine. The Bladder wall appears diffusely thickened and irregular measuring at approximately 0.41 cm, with some variability and some focal thickening which could represent mild polypoid like lesions, early mass effects, etc. The proximal urethra appears somewhat prominent and thickening, measuring at 0.44 cm. No stones are visualized.

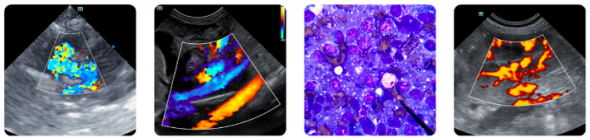
The left kidney has a normal shape and size (4.13 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is pyelectasia noted measuring 0.29 cm. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.0 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 significant pyelectasia noted measuring 0.65 cm. Pinpoint non-obstructive nephroliths, and a stone is visualized within the renal pelvis, measuring 0.49 cm. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large in size measuring 0.74 cm at the cranial pole and 0.65 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 1.41 cm at the cranial pole and 0.89 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal



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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 (1.21 cm) and the echotexture is homogenous. The splenic capsule is smooth with no visible irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is normal in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is mildly heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There are occasional ill-defined, hypoechoic nodules in the parenchyma. An example measures 0.51 cm. Additionally, there's a small hypoechoic, cystic structure visualized in the cranial aspect of the liver measuring 0.43 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 is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering is adequate and there is no impression of reduced peristaltic activity. Shadowing ingesta interferes with full evaluation of the stomach, and some areas of the cranial abdomen.

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 (0.25 cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The distal appears somewhat thickened with intact wall layering measuring at 0.3 cm. Sections of colon are visualized with formed fecal material and gas shadowing distally.

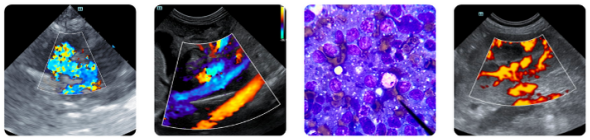
Pancreas

The area of 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.

PRIMARY FINDINGS



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- Thickening irregular urinary bladder and proximal urethra. Findings are most consistent with cystitis/urethritis. Occasional polypoid lesions or an underlying neoplastic process cannot be definitively ruled out.
- Bilateral adrenomegaly. 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.
- Age related changes visualized associated with both kidneys, as well as bilateral pyelectasia, and a stone within the right renal pelvis. Pyelectasia of the kidney(s)could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Mildly heterogenous liver with occasional ill-defined, hypoechoic nodules and a small anechoic cyst. Findings could be consistent with a vacuolar hepatopathy, and occasional regenerative nodules. Other hepatopathies are possible.
- Prominent/thickening distal colon. Findings could be consistent with anatomic variation, imaging artifact, mild colitis, etc. Correlate with a digital rectal exam.

SECONDARY FINDINGS

- 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 visualized within the gastric lumen. Correlate with feeding history. If the patient was adequately fasted consider the possibility of delayed gastric emptying, or partial outflow tract obstruction (none clearly visualized.)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The urinary bladder and urethra appear irregular and thickened. Based on the history provided, chronic cystitis/urethritis is suspected. No stones are visualized in the proximal urethra at this time. Both kidneys have changes consistent with chronic renal disease/age related renal change, as well as bilateral pyelectasia and there is a stone visualized in the right renal pelvis. This does not appear overtly obstructive but could be partially obstructive. Findings are concerning for possible pyelonephritis given the history reported.

Both adrenals are large and the liver is somewhat heterogenous with an elevation in ALP. Findings are concerning for possibly hyperadrenocorticism. This could be pituitary dependent hyperadrenocorticism. This could be contributing to the recurrent urinary tract infections, calciuresis, and could be contributing to stone formation. Consider adrenal function testing and treatment if Cushing's seems likely.

Recommend urine culture, and urinalysis to treat the current infection appropriately. Treatment may need to be long term based on the possibility of pyelonephritis, and cultures during and after treatment should be considered in the case of possible shift in antibiotics susceptibility, etc. The history mentions the possibility of distal urethral stones. Consider heavy sedation and catheterization to try and retro pulse these back into the urinary bladder, and reevaluation of the urinary bladder

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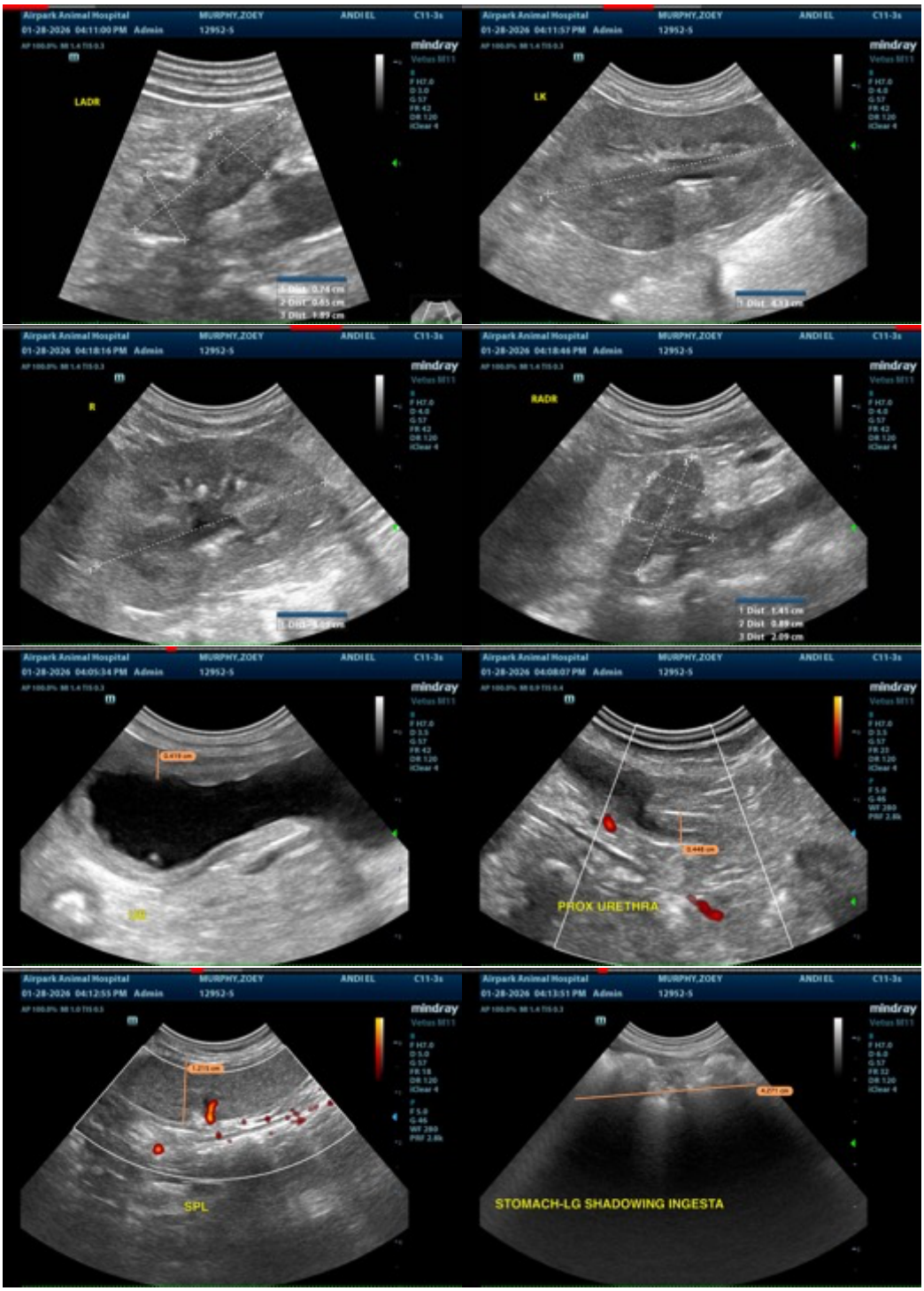
should be considered towards the end of antibiotic treatment to ensure that the bladder wall changes are improving. Close monitoring for acute exacerbation of symptoms is warranted as this could represent the development of an obstructive ureterolith, or urethral stone.



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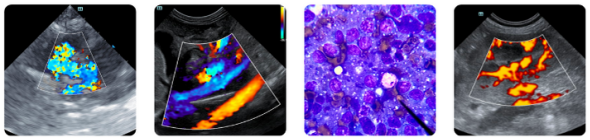

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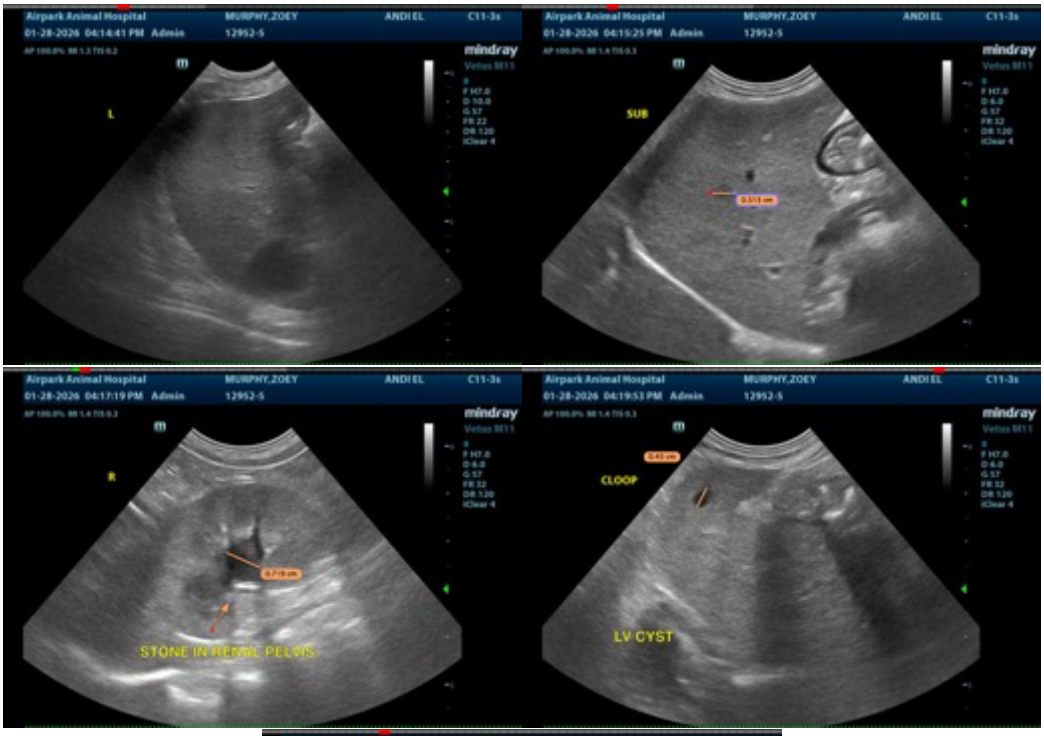

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

info@sonopath.com