SonoPath
Clinical Sonography & Telecytology
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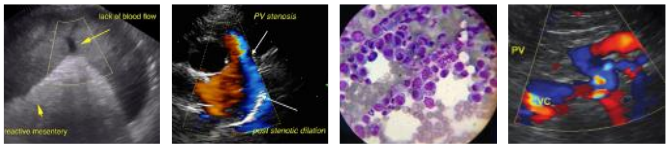


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Feebie Johnston

SPECIES

Canine

BREED

Pug

SEX

FS

AGE

8

WEIGHT

14.4

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY

A. Waffle

HOSPITAL NAME

Torch Lake VC

REFERRING VET

A. Waffle

INVOICE

16353

DATE

3/11/23

PRESENTING CLINICAL SIGNS

Hx of hematuria noted this am Was sick last weekend, but perked up when owner gave canned food. Abnormal PE/Chem/CBC/UA Results: Urinary bladder palpates full of stones (feels like gravel) Lethargic/mild ataxia Weak femoral pulses Pink<2 GLU - 35 (confirmed with glucometer) BUN - 48 CREA - 2.5 PHOS - 11.5 ALP - 678 CL - 101 Na - 138 Degenerative left shift neutrophils - 7.96 lymph - 7.12 mono - 5.67 PLT - 120 HCT - 34% WBC - 20.79 BL 82 after dextrose administered

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder was distended in size subjectively, although the entirety of the urinary bladder was not visualized owing to multiple, variably sized, cystic calculi occupying the entirety of the urinary bladder lumen. An example of a cystic calculus measured 1.7 cm in diameter.

No overt medial Iliac or sublumbar lymphadenopathy.

The left kidney was overtly normal in size with severe left kidney hydronephrosis indicated by replacement of discernable medullary parenchyma with primarily anechoic fluid. The left kidney hydronephrotic fluid exhibited subtle echogenic changes. A solitary left kidney calculus measuring 1.2 cm in diameter was present. A concurrent visualized proximal left hydroureter was noted, although the entire left ureter to the level of the urinary bladder was not definitively visualized. Left increased retroperitoneal echogenicity along with mild retroperitoneal free fluid surrounding the left kidney were present. The proximal left ureter exiting the left kidney measured 0.85 cm in diameter.

Normal size and margination were present in the right kidney. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and moderate loss of corticomedullary symmetry and definition expected for the age of the patient. Mild areas of nonobstructive right kidney medullary mineral along with minor right kidney pyelectasia were present.

Adrenal Glands

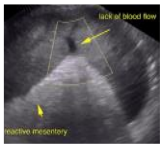
The left and right adrenal glands were not definitively visualized.

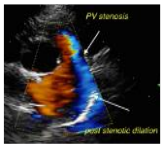
Spleen

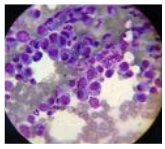
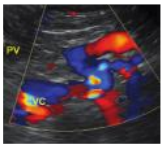
The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

Liver/ Gallbladder

The liver presented as mildly enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance. Overtly normal hepatic vascular volume without hepatic congestive criteria was noted. The gallbladder was non-distended in size containing mild nonorganized hyperechoic luminal debris. The common bile duct was overtly





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normal without evidence of post hepatic obstructive criteria. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct.

The intestinal walls demonstrated intact wall layering and maintained 1:3 muscularis / mucosa ratio. The mucosa exhibited mild decreased echogenicity with occasional mucosal speckling. Minor nonobstructive intestinal ileus pattern consisting of mild fluid accumulation in the intestinal lumen was present without obstruction or foreign material.

The colon walls presented intact yet mildly prominent wall layering with mild thickened to echogenic submucosa. The colon was primarily empty with segmental semi-formed fecal matter.

Pancreas

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

Free Abdomen

Mild volume peritoneal to retroperitoneal free fluid was noted. The peritoneal to retroperitoneal free fluid was primarily anechoic with mild echogenic changes, which may suggest mild fluid cellularity. No omental masses or evidence of overt or significant lymphadenopathy was noted. Generalized hyperechoic omentum was present primarily in the mid-abdomen within the area of the left kidney.

ULTRASONOGRAPHIC FINDINGS

- Multiple cystic calculi occupying majority to entirety of urinary bladder lumen
- Advanced left kidney hydronephrosis with left kidney renolith, concurrent proximal left hydroureter
- Right kidney chronic renal changes with mild medullary mineral and minor pyelectasia
- Hepatopathy
- Mild gallbladder debris (non-mucocele)
- Subjective gastroenteritis pattern
- Peritoneal / retroperitoneal free fluid - concern for peritonitis / retroperitonitis, concern for emerging uroperitoneum / uro-retroperitoneum possible

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The left kidney appears to be end-stage and is likely nonfunctional. Potential for non-visualized left ureter obstruction, given concurrent renal and cystic calculi, is possible. Peritoneal / retroperitoneal effusion analysis, cytology, C/S if evidence of inflammatory cells, +/- fluid creatinine: serum creatinine ratio, if clinical concern for emerging uroperitoneum / uro-retroperitoneum, is recommended.

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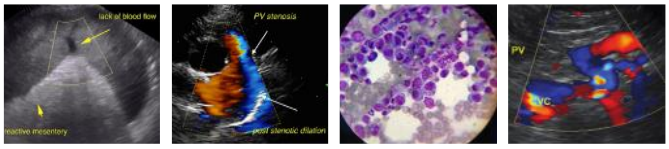

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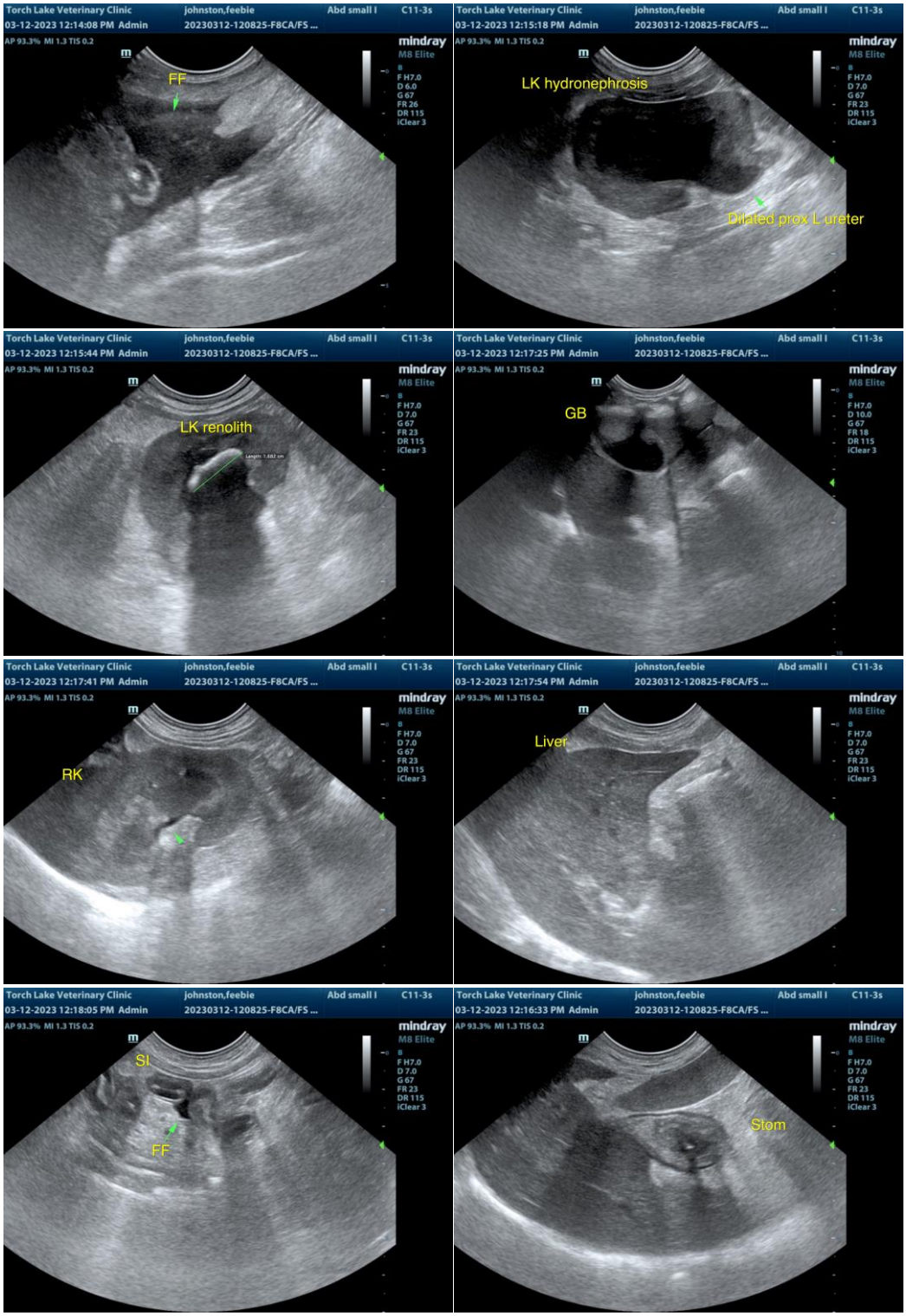
Full urinary workup including C/S to assess for underlying infection, as well as pre-renal vs. renal azotemia is recommended. An extremely guarded prognosis is indicated.



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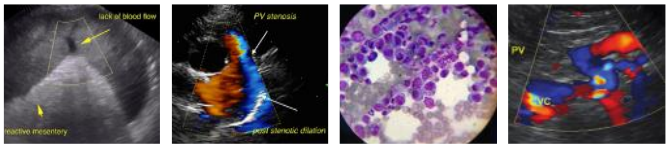

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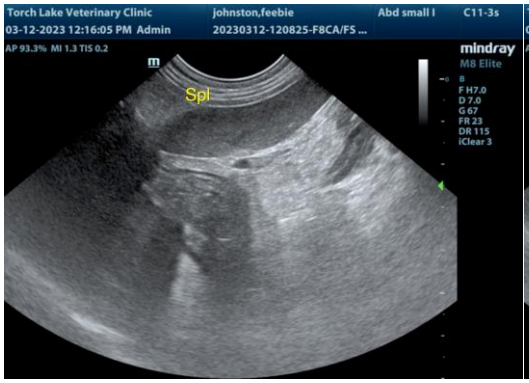

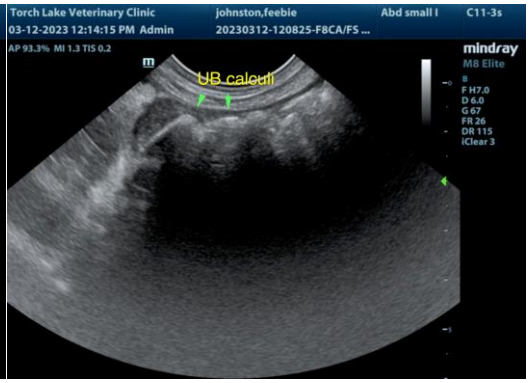

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com