



**PATIENT**

Ace Torian

**PRESENTING CLINICAL SIGNS**

History: An old cat with CKD Stage 3 IRIS is losing weight. Appetite good. Eats Hills k/d. Doesn't act like he feels well according to owner.

**SPECIES**

Feline

Weight loss, rt eye 3rd eyelid is up (HAWS). BUN, creatinine elevated, amylase high, precision PSL high. CBC eosinophilia mild, T4 normal. UA proteinuria, inappropriately low specific gravity.

**BREED**

Domestic Shorthair

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**SEX**

Neutered male

**Urinary System**

The urinary bladder is adequately filled. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass.

**AGE**

19 years

The left kidney measures 3.89 cm is at the low end of the reference range. The cortex is hyperechoic and a moderate loss of the normal definition of the cortico-medullary junction is present. Very small, punctate, mineralizations of the diverticulae are present, in addition to multiple nephroliths and secondary pyelectasia. Measurements of nephroliths include 3.4 mm, 5.3 mm. Pyelectasia is not due to pu/pd or fluid therapy alone, i.e., partial obstruction secondary to nephrolithiasis is present. The pelvis measures 2.98 mm longitudinally and 6.8 mm in a transverse view. There is no evidence of hydroureter. The surrounding mesentery is mildly hyperechoic.

**WEIGHT**

8.75 lbs

The right kidney is decreased in size (3.5 cm). The capsule is smooth. The cortex is hyperechoic and a moderate loss of the normal definition of the cortico-medullary junction is present. Mineralizations are present, in addition to pyelectasia (which measures 4.8 mm). The surrounding mesentery is mildly hyperechoic.

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

Pyelonephritis and possible pyonephrosis cannot be excluded, in addition to chronic renal disease and secondary fibrotic changes.

**IMAGING PERFORMED BY**

Dr. Harold Mike Beard

**Adrenal Glands**

The left adrenal gland: No abnormalities are noted with the gland's shape, overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

**HOSPITAL NAME**

West Prince AH

The right adrenal gland is not visualized.

**REFERRING VET**

Dr. Harold Mike Beard

**Spleen**

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

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**Liver**

**DATE**

3/21/22

The liver is subjectively mildly enlarged. The diffuse hyperechogenicity of the liver, in conjunction with Ace's history, are suggestive of cholangitis/cholangiohepatitis. Hepatic lipidosis secondary to hypoxemia is likely contributing to the hyperechogenicity.



**PATIENT** Changes associated with the gallbladder wall and the tortuous cystic duct are suggestive of cholecystitis.

Ace Torian

**SPECIES** *Gastrointestinal*

Feline

The stomach is filled with ingesta making it difficult to perform an in-depth evaluation. However, the definition of the wall layers is well preserved and the stomach wall is not thickened.

**BREED**

Domestic Shorthair

Multiple loops of small intestine are at the high end of the normal reference range to mildly thickened (0.30 cm). Although the definition of the wall layers is preserved, fogging of the mucosa is present. Furthermore, the jejunum in the region of the ileocecolic junction is thickened and both the mucosa and muscularis are more prominent than usual. Fogging of the mucosa is also present. There are no obvious mass lesions or lymphadenomegaly in the region of the ileo-ceco-colic junction. The mesentery surrounding some of the loops of the small intestine are hyperechoic, which is suggestive of inflammation. An accumulation of ingesta and secondary dilation of the lumen of a few loops of bowel are also present. The latter is suggestive of decreased peristalsis.

**SEX**

Neutered male

**AGE**

19 years

*Pancreas*

Both limbs are heterogeneous with hyperechoic areas dispersed haphazardly throughout the parenchyma. Differential diagnoses include fibrosis due to previous episodes of pancreatitis, ischemia and/or amyloid deposition.

**WEIGHT**

8.75 lbs

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*Other*

Lymph nodes: No abnormalities are observed.

Abdominal effusion is not visualized.

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**ULTRASONOGRAPHIC FINDINGS**

- Chronic renal disease, with nephrolithiasis and pyelectasia affecting both kidneys. Pyelonephritis and possible pyelonephrosis cannot be excluded, in addition to chronic renal disease and secondary fibrotic changes. The nephroliths are likely acting as a chronic nidus for infection.
- The liver is diffusely hyperechoic, which may be due to subclinical hepatic lipidosis due to hyporexia. However, cholangitis/cholangiohepatitis cannot be excluded
- The changes observed with the gallbladder are suggestive of edema and cholecystitis.
- The diffuse thickening and mucosal fogging of the gastrointestinal tract may be due to inflammation, for example, secondary to underlying inflammatory bowel disease. However, infiltrative disease, such as lymphoma or other round cell tumour, cannot be excluded. A component of the stomach changes may also be due to uremia.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

A urine culture and sensitivity is highly recommended. Enrofloxacin should be administered to treat for



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possible pyelonephritis pending the culture results. Supportive care, such as anti-emetics, appetite stimulants and analgesics, are recommended, in addition to subcutaneous fluids at home, are also recommended.

**SPECIES**

Feline

Abdominal radiographs may be performed to rule out ureteroliths, which can be overlooked sonographically. If present, a discussion regarding referral for placement of a SUB versus administration of analgesia and treatment of pyelonephritis.

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Domestic Shorthair

If there is no improvement with supportive therapy and further diagnostics and interventional therapy are not desired, an anti-inflammatory dose of prednisolone may be considered, however, antibiotics will have to be continued during the administration of corticosteroids.

**SEX**

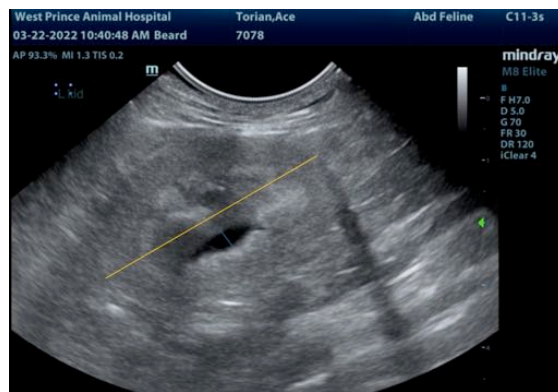
Neutered male

**AGE**

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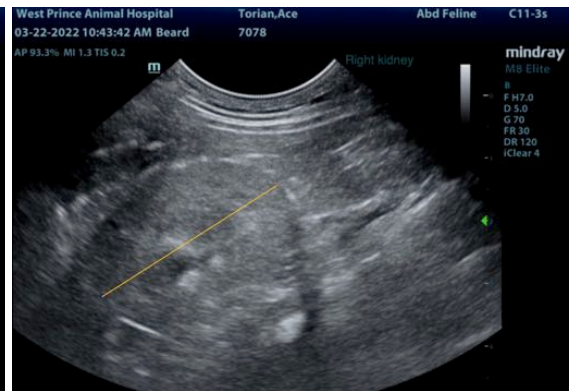
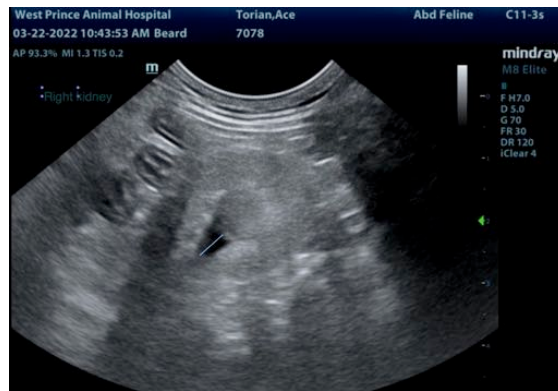
**WEIGHT**

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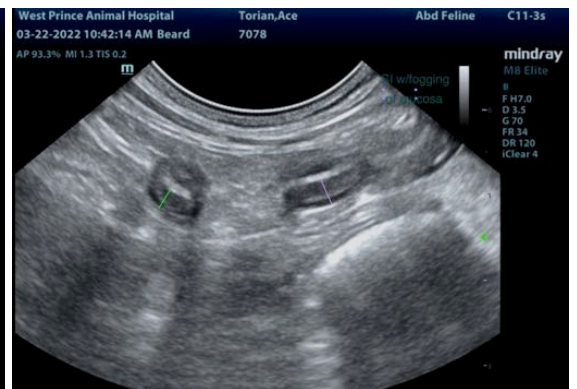
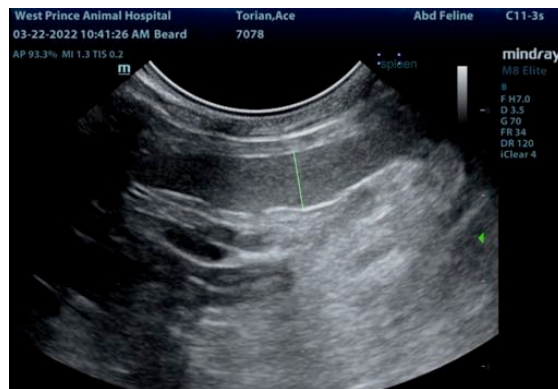


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**HOSPITAL NAME**

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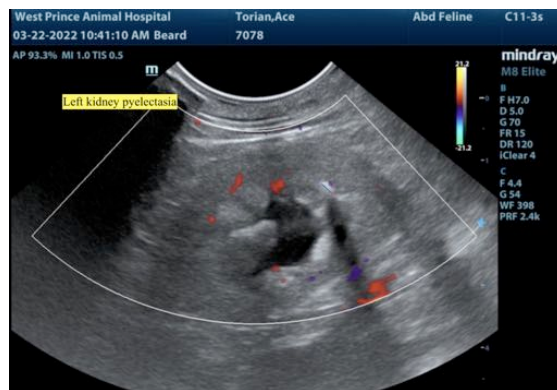
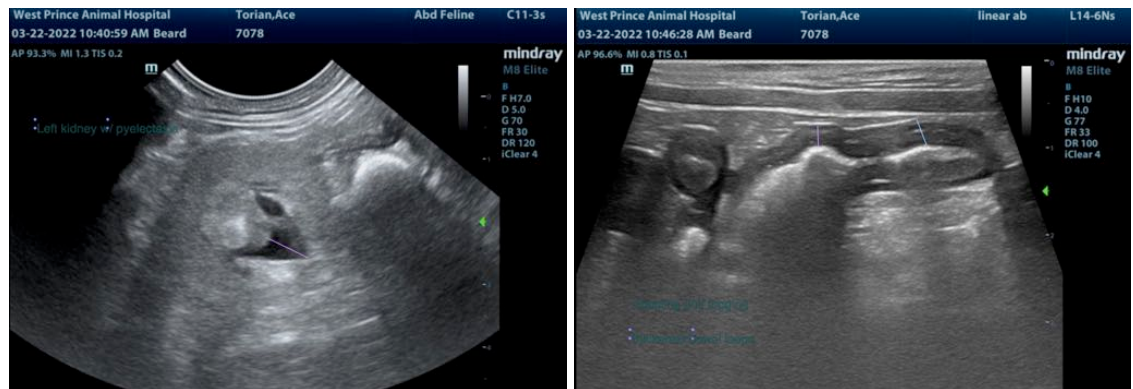
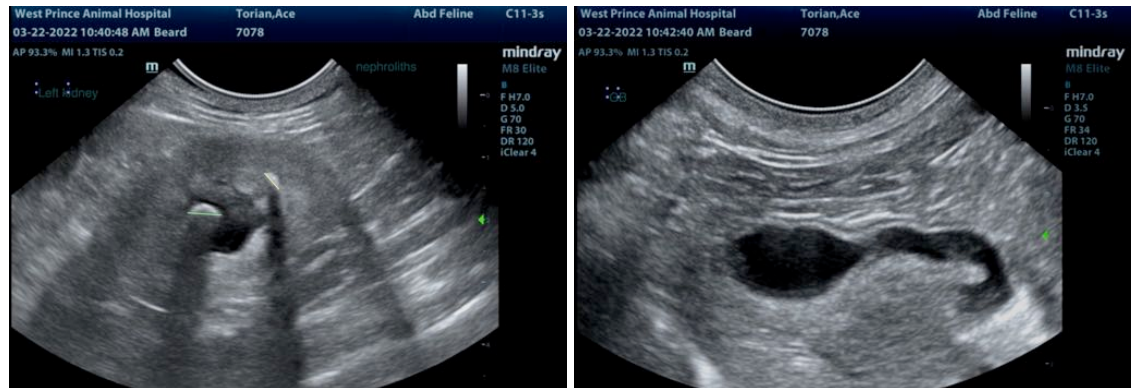
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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