

**PATIENT PRESENTING CLINICAL SIGNS**

Athena Stone History: Elevated renal values

Labs: BUN 37, Creatinine 3.0, Calcium 12.5, Urine Spec Gravity 1.035

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Feline *Urinary System*

**BREED**

Domestic Shorthair

The urinary bladder was normal in size and tone. Mild to moderate dependent mineral present in the urinary bladder lumen with mild nondependent particulate sediment. Mild nonobstructive urethral luminal mineral was also present with normal urethral structure and tone to a depth of 2.0 cm. Aortic trifurcation was normal.

**SEX**

FS

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 mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Areas of nonobstructive medullary renolithiasis was present in the right kidney. Subtle evidence of proximal right ureter dilation, exiting the right kidney with mild evidence of peripheral tissue echogenicity was present. The proximal right ureter measured 0.11 cm in diameter. The right kidney measured 3.7 cm in length.

**AGE**

4 years

The left kidney exhibited severe hydronephrosis, exhibiting complete loss of discernable medullary parenchyma with primarily anechoic fluid and areas of mineral. Peripheral hyperechoic bands, consistent with interdiverticular septa with only discernable aspects of the medulla visualized. The cortex of the left kidney was mildly thin in appearance with normal echogenicity. No evidence of retroperitoneal inflammation. The left ureter exhibited mild to moderate distention with focal to potential multifocal areas of mineral within the subjective mid left ureter. An example of a left ureter mineral measured 0.27 cm in diameter.

**WEIGHT**

9.2 Pounds

**INTERPRETED BY**

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

*Adrenal Glands*

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.25 cm.

**IMAGING PERFORMED BY**

Rebekah Jakum, CVT  
 ARDMS/RVT

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured – cm width at the caudal pole and – cm width at the cranial pole.

**HOSPITAL NAME**

Conrad Weiser AH

*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. The spleen measured 0.8 cm in width.

**REFERRING VET**

Dr. Larkin

*Liver*

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

**INVOICE**

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*Gastrointestinal*



**PATIENT**

Athena Stone

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

**SPECIES**

Feline

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

**Pancreas**

**BREED**

Domestic Shorthair

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

**Free Abdomen**

**SEX**

FS

No overt lymphadenopathy or peritoneal effusion was present.

**AGE**

4 years

**ULTRASONOGRAPHIC FINDINGS**

- Mild to moderate urinary bladder and nonobstructive urethral luminal mineral
- Obstructive left ureterolithiasis with secondary severe left kidney hydronephrosis
- Nonobstructive right kidney medullary renolithiasis with potential mild proximal right ureteritis

**WEIGHT**

9.2 Pounds

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The degree of left kidney hydronephrosis suggests chronic left ureter obstruction with functionality of the left kidney considered unlikely. The azotemia in the face of reasonably concentrated urine may suggest prerenal azotemia as the right kidney did not appear to be severely diseased or end-stage. However, some degree of concurrent right kidney insufficiency cannot be definitively excluded. It is suspected that this patient has been chronically passing mineral from the kidneys into the urinary bladder resulting in left obstructive ureterolithiasis. Urine culture and sensitivity on sterile urine sample recommended to assess for underlying infection. Subjectively left nephrectomy may be in this patients best interest versus other procedures (such as subcutaneous ureteral bypass device or left ureteral surgery).

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**HOSPITAL NAME**

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**REFERRING VET**

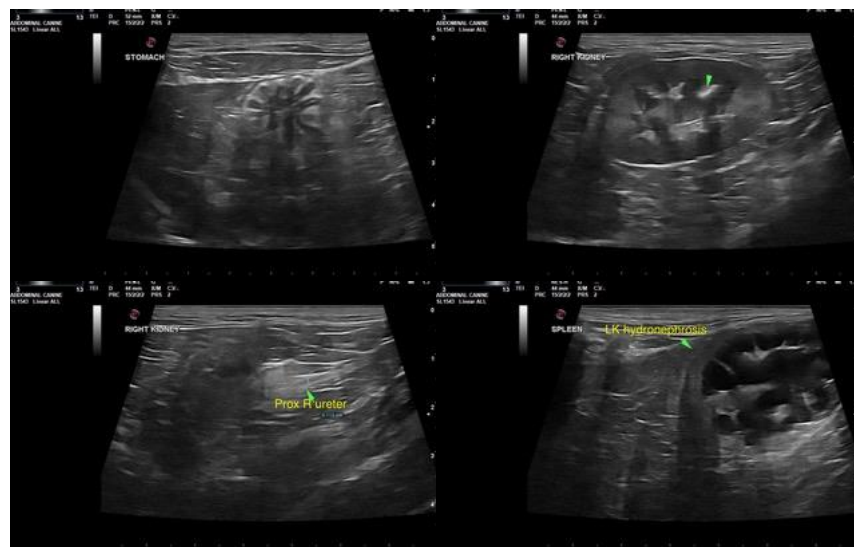
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**PATIENT**

Athena Stone

**SPECIES**

Feline

**BREED**

Domestic Shorthair

**SEX**

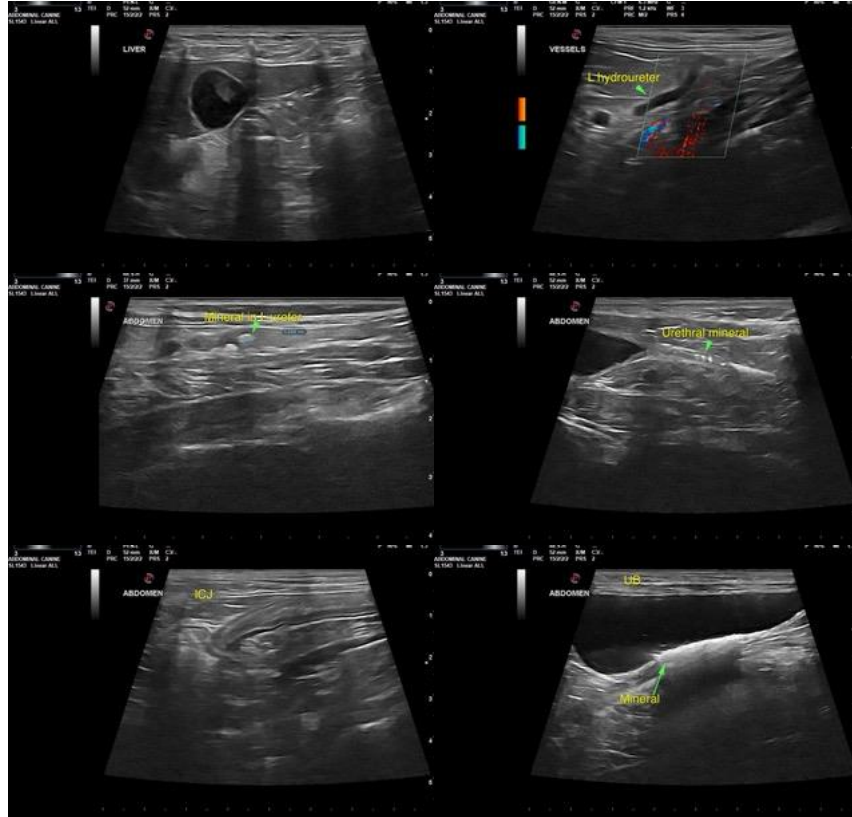
FS

**AGE**

4 years

**WEIGHT**

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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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