

**DATE PRESENTING CLINICAL SIGNS**

8/30/22

Sweetie Pie has had 3 episodes of LUTD signs. The first one was in April 2022. A urinalysis showed only hematuria and an x-ray of the bladder did not reveal anything. She was treated with gabapentin and phenoxybenzamine and the issue resolved. She had an issue in the beginning of August for which she was not seen. only restarted on the medications. It resolved. She returned today for a recurrence. The owners had been out of town for 4 days and when they got back home, she was having hematuria, pollakiuria and stranguria. A urine sample was unable to be obtained today. An x-ray shows a very small bladder and a possible slight increased density in the middle of the bladder but suspect it is just from overlay of the leg musculing.

**PATIENT**

Sweetie Pie Ward

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

7/8/12

**WEIGHT**

11.75 Pounds

**INTERPRETED BY**

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MS, Diplomate ACVIM  
(Small Animal Internal  
Medicine)

**IMAGING PERFORMED BY**

Rachel Brilhart RDMS

**HOSPITAL NAME**

Cat Sense Feline  
Hospital

**REFERRING VET**

Dr. Sinclair

**INVOICE**

40851

Current Medications: gabapentin 25mg bid; phenoxybenzamine 5mg sid  
Radiographs: See attached.  
Date of Previous IntraPet Ultrasound: No previous.  
Sedation: Not required to complete full diagnostic ultrasound.  
Stat Report: Not requested.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****Urinary System**

The urinary bladder is moderately distended with mild primarily suspended echogenic debris and some dependent shadowing/sandy debris present. There are numerous small calculi/sandy areas with focal stones measuring approximately 1.0 mm in size. The Bladder wall appears mildly diffusely thickened, measuring 0.31 cm. The trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or calculi. Echogenic debris of this type can be associated with small crystals, sandy debris or small calculi. Correlate findings with abdominal radiographs, urinalysis and culture.

The left kidney has a normal shape and size (4.3 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.31 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.42 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 normal in size measuring 0.48 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal 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, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

### ***Liver***

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

### ***Gastrointestinal***

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.36cm 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. Jejunum wall measures 0.19 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.

## **ULTRASONOGRAPHIC FINDINGS**

- Diffusely mildly thickened urinary bladder wall with dependent sandy debris/small calculi – The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient. The small hyperechoic foci are most consistent with small stones/sandy debris.

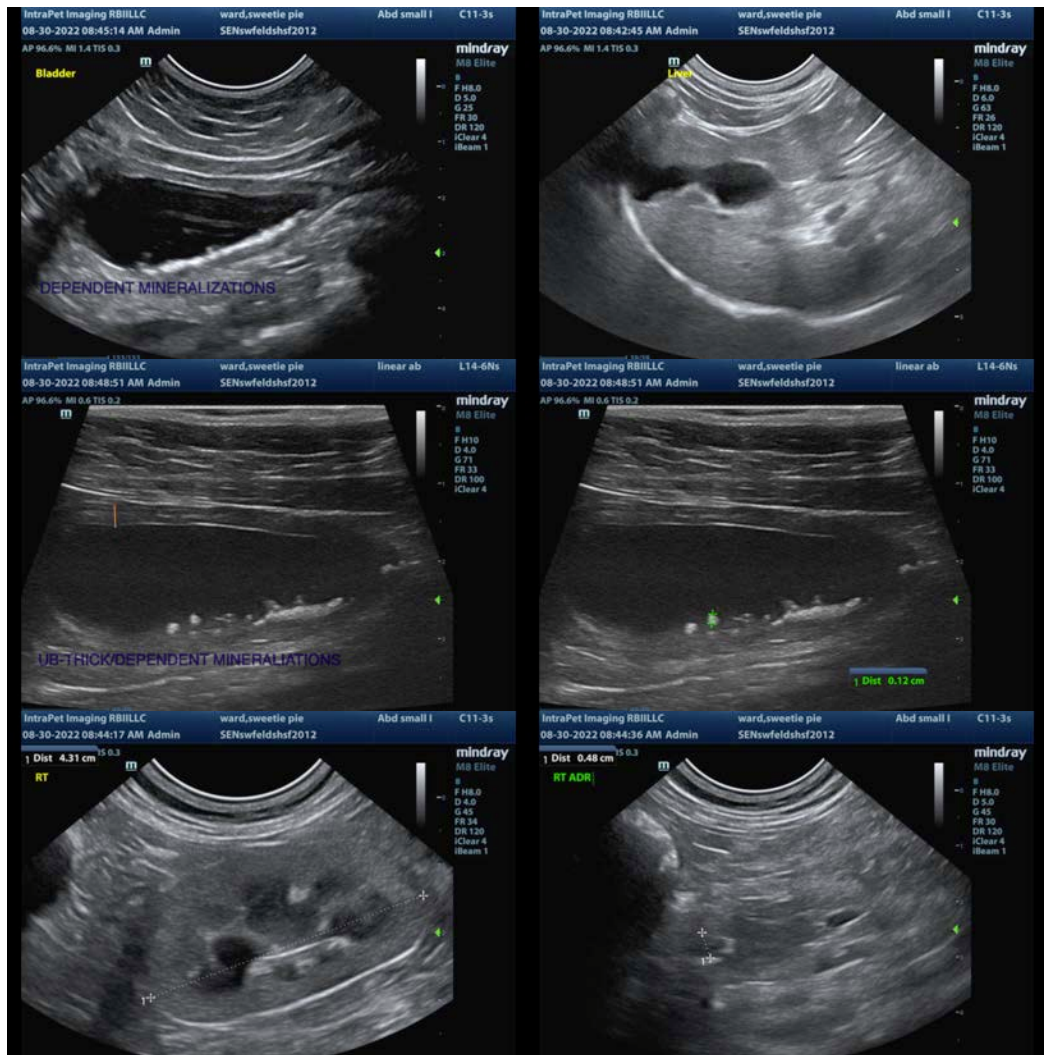
## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

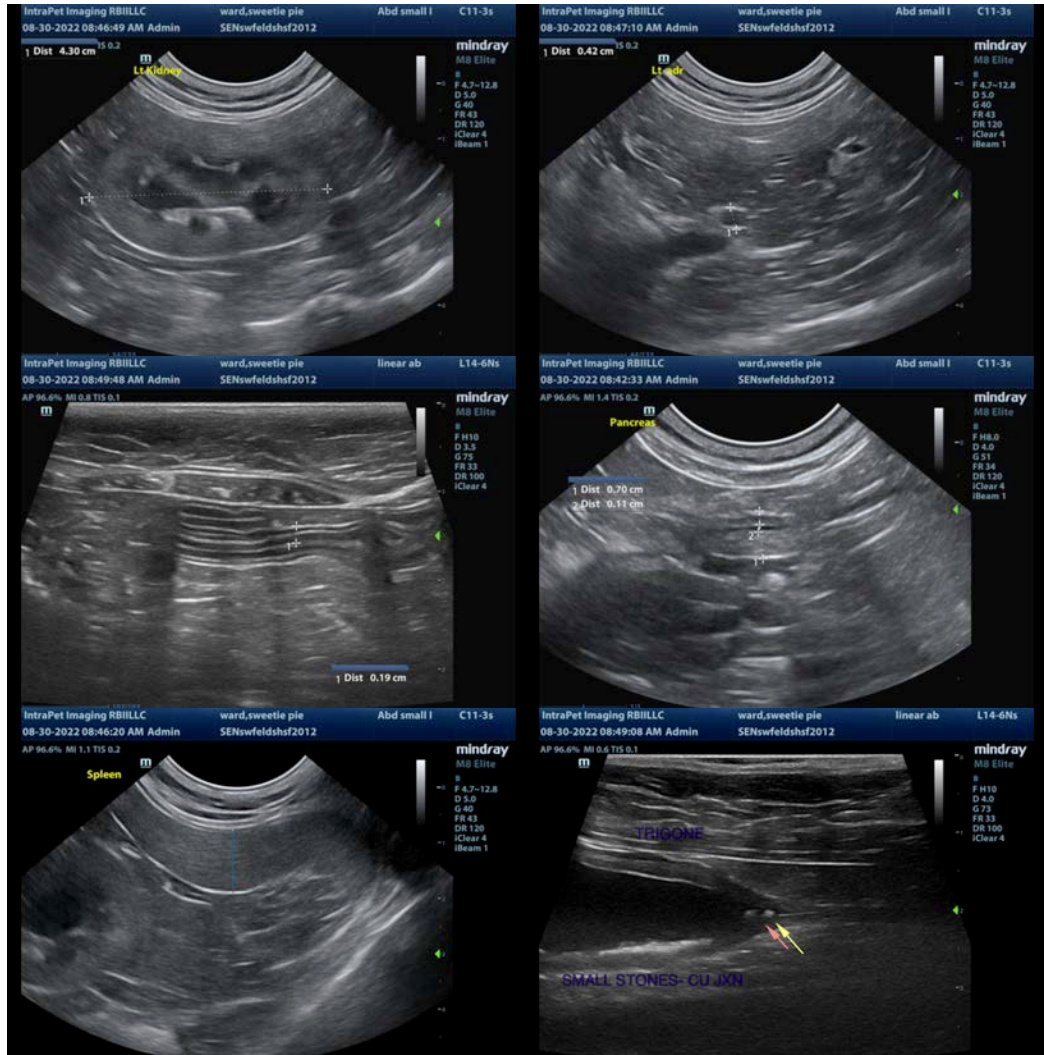
Dependent shadowing debris is visualized in the dependent portion of the urinary bladder. This could be consistent with sandy debris or small stones.

- Correlate findings with abdominal radiographs
- Recommend urinalysis and culture
- Monitor for signs of urinary obstruction (particularly in males)

These small mineralizations are likely small enough to be passed, but if there is swelling or a group, you could see an obstruction (less likely in this female cat). Recommend urine culture. If there is no evidence of infection, then you could consider treatment for sterile cystitis with close monitoring of the stones.

- Urinalysis and culture are recommended.
- Due to the diffuse nature of the lesion, interstitial cystitis is suspected (if culture is negative)
- Treatment of FIC can be frustrating as it is a waxing and waning disease. Treatment strategies vary and there is no “one fits all” approach. There is currently no cure for FIC. Goals of therapy include reduction of severity and duration of clinical signs during an acute episode; increasing the interval between episodes; and decreasing severity of signs in cats with persistent FIC. Approximately 85% of cats will experience clinical improvement with or without therapy.
- Numerous therapies can be considered including: diet, multimodal environmental modification, analgesics, anti-inflammatories, anti-anxiety medications etc..
- Close observation is warranted as some cats do experience life-threatening urinary obstruction.
- If symptoms are worsening re-evaluation with ultrasound should be considered.





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.

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