



## PATIENT

Lucy Spang

## SPECIES

Canine

## BREED

Collie Mix

## SEX

Spayed Female

## AGE-RELATED RENAL CHANGES

8/9/2014

## WEIGHT

16.6 kg

## INTERPRETED BY

Andrea Nicastro,  
DVM, Diplomate  
ACVIM (Small Animal  
Internal Medicine)

## IMAGING PERFORMED BY

Andrea Nicastro,  
DVM, Diplomate  
ACVIM (Small Animal  
Internal Medicine)

## HOSPITAL NAME

Flowertown AH

## REFERRING VET

Dr. Kline

## INVOICE

10460

## DATE

2/25/22

## PRESENTING CLINICAL SIGNS

Medical Hx: Stranguira with polakiuria  
Acute onset vomiting, lethargy, and hyporexia. Urolith with irregular shadowing

ABNORMAL Labwork Values: Elevated BUN (44mg/dL). Elevated CHOL (433mg/dL)

Current Medications: Zeniquin 50mg SID, Gabapentin 100-200mg BID

Radiographic Findings: 4 images emailed.

Radiographic Findings: 3-view abdominal radiographs and a left lateral thoracic radiograph (4 total) dated February 9, 2022, are provided for interpretation.

Abdomen: An 8 mm oval spiculated mineral opacity is present within the urinary bladder. The urinary bladder is mildly distended. The kidneys are within normal limits for size, shape, and margination. The liver and spleen are within normal limits. The stomach contains a small amount of gas. The duodenum is diffusely gas-filled. The small intestines are fluid and gas-filled and uniform and within normal limits for size. Gas and a small amount of fecal material are present within the colon. Abdominal serosal detail is adequate. Mild degenerative changes are noted at the lumbosacral junction. The remainder of the osseous structures of the abdomen are within normal limits. Incidentally, the 13th ribs are hypoplastic. The patient has an overabundance of extrathoracic and extra-abdominal fat.

Thorax: A single left lateral projection of the thorax is available. The cardiac silhouette, pulmonary vasculature, and pulmonary parenchyma are within normal limits. The trachea and mediastinum are normal. A small amount of fluid is present in the caudal thoracic esophagus. The osseous structures of the thorax are within normal limits. Moderate to severe degenerative changes are noted in both elbow joints.

Radiographic Conclusions/Recommendations:

1. Mineral cystic calculus.
2. Radiographically normal kidneys and gastrointestinal structures. No evidence of GI foreign material or mechanical obstruction.
3. Unremarkable left lateral thorax.
4. Bilateral elbow osteoarthritis/degenerative joint disease.

Comments: An abdominal ultrasound could be considered to further evaluate this patient's urinary system. Cystotomy with submission of the urolith for evaluation is likely indicated. Correlation with blood work and urinalysis is recommended. No definitive radiographic evidence for a primary cause of this patient's vomiting and inappetence is observed.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The urinary bladder is moderately distended. The wall is variably thickened (up to 0.59 cm), and irregular. A 0.87 cm cystic calculus is observed within the lumen along with a scant amount of suspended echogenic debris. The region of the trigone and the proximal urethra, visible to a depth of 3 cm, are normal.

The left kidney is normal size (5.76cm); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary



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distinction. Several nonobstructive nephroliths are visualized. Mild pyelectasia is present (0.27 cm in the longitudinal plane). There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

**SPECIES**

Canine

The right kidney is normal size (6.71 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. Several nonobstructive nephroliths are visualized. Mild pyelectasia is present. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

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**Adrenal Glands**

The left adrenal gland is normal size (0.49 cm at cranial pole) (0.58 cm at caudal pole); normal shape, homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**SEX**

Spayed Female

The right adrenal gland is normal size (0.62 cm at cranial pole) (0.61 cm at caudal pole) (2.53 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**AGE-RELATE  
RENAL CHANGES**

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**Spleen**

The spleen is normal in size (1.67 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

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**Liver**

The liver is subjectively normal in size with normal curvilinear peripheral contours. The parenchyma is hypoechoic relative to the spleen with minor changes consistent with age-related remodeling. No focal lesions are observed. Hepatic vasculature and biliary tracts are of normal volume with no evidence of congestion.

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The gall bladder lumen is moderately distended. The wall is thin and smooth. A moderate to large amount of aggregated, echogenic, mostly gravity dependent debris/sludge is observed within the lumen. The cystic and common bile ducts are normal.

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**Gastrointestinal**

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is minimally distended with ingesta. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The small intestinal lumen is segmentally dilated with chyme. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive or overt infiltrative disease is noted.

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**Pancreas**

The right limb of the pancreas is visible with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion.

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**Free Abdomen**

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal

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lymph nodes are normal/not visible.

**Other**

A brief echocardiogram reveals no evidence of pericardial effusion or obvious right atrial/auricular mass.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings**

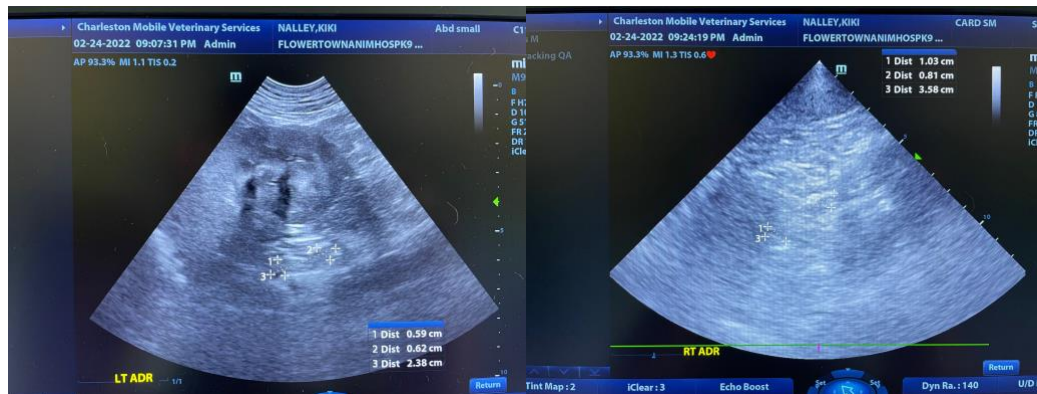
- Cystic calculus with bladder wall changes consistent with cystitis.
- Bilateral nonspecific, age-related renal changes with nonobstructive nephrolithiasis

**Secondary Findings**

- The hepatic changes are consistent with age-related parenchymal remodeling and are not considered clinically significant at this time.
- Gall bladder sludge, non-mucocele

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- A cystotomy with stone removal, analysis and culture is recommended. Alternatively, medical dissolution of the stones can be considered with a prescription renal diet and broad-spectrum antibiotic therapy. If there is no improvement in stone size after 4 weeks of therapy, a cystotomy should be reconsidered. If the stone size is reduced, continue therapy until complete dissolution has been achieved.
- A urine culture and sensitivity is also recommended 5-7 days after the last dose of antibiotics.





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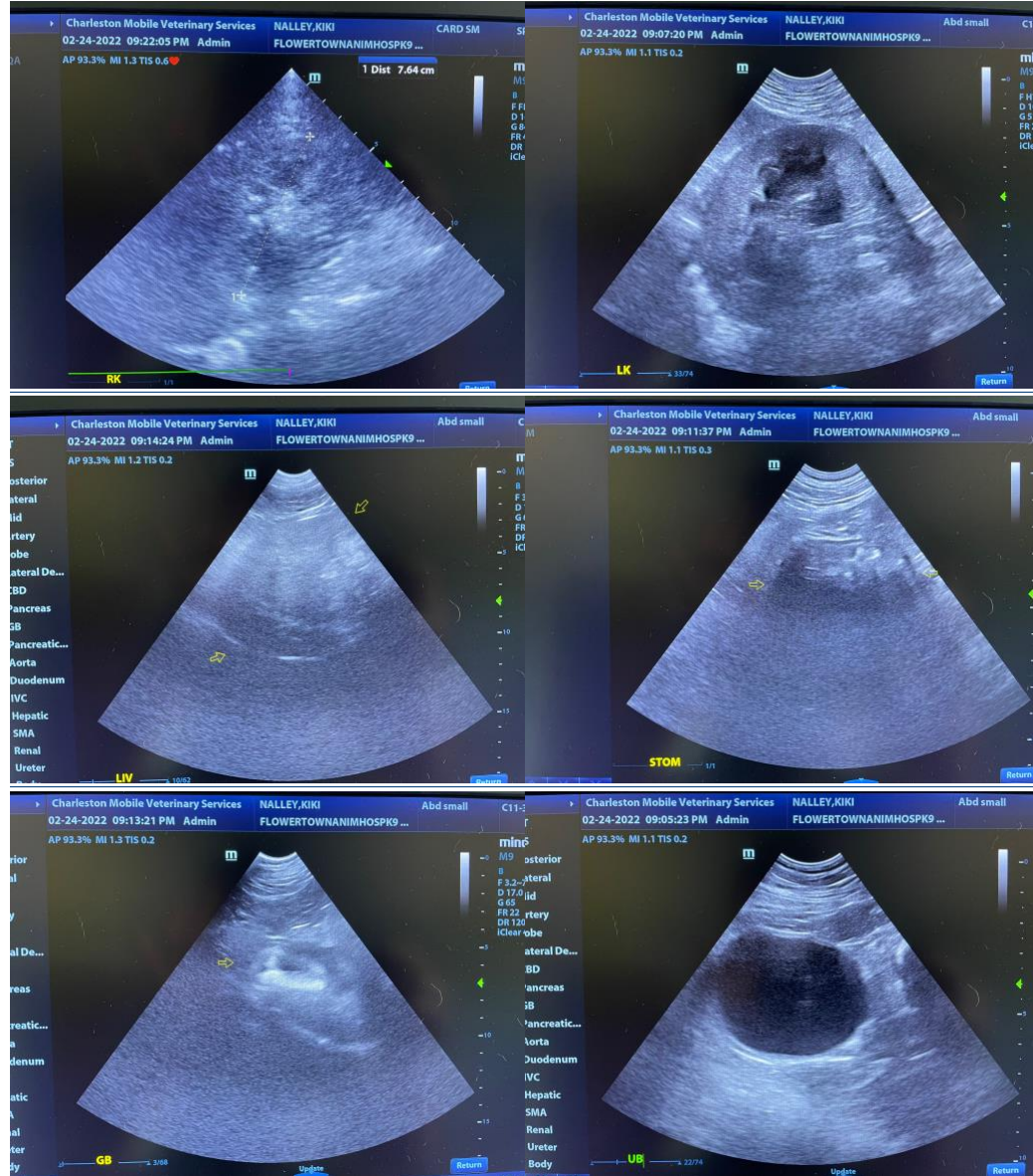
Dr. Kline

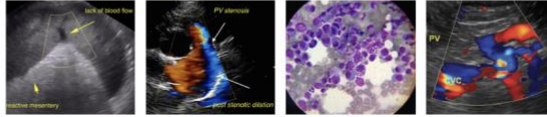
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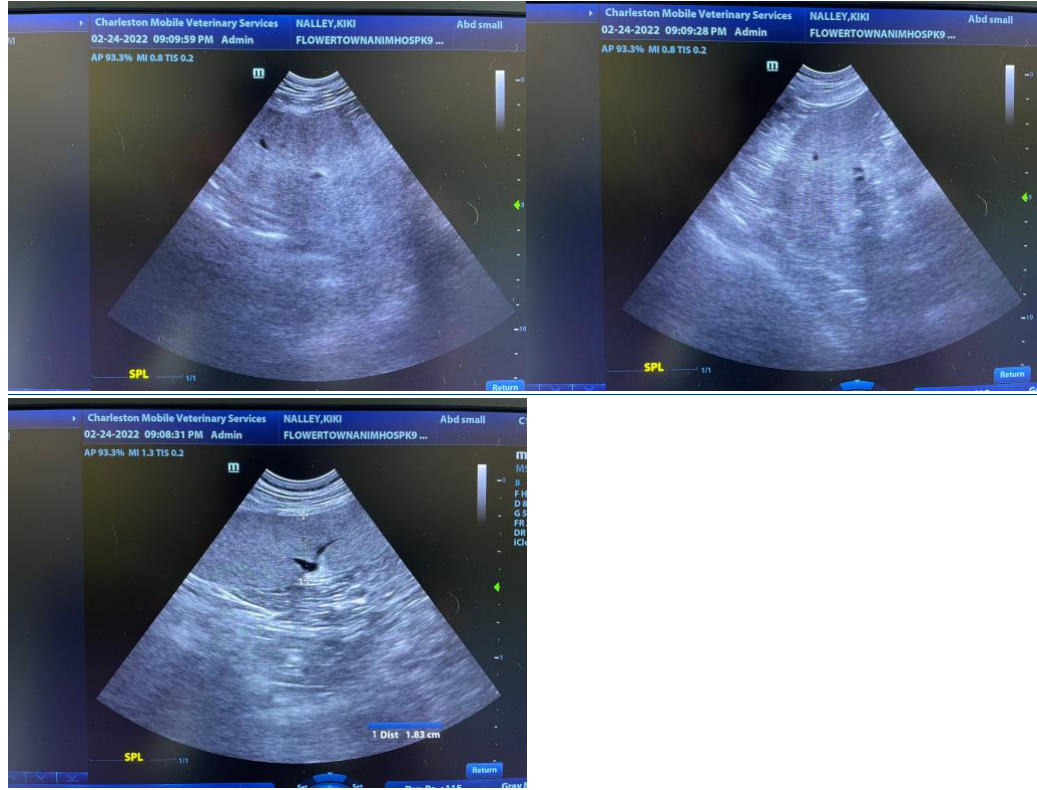
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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