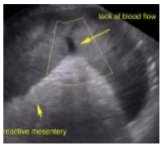
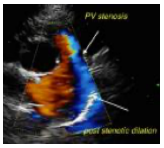
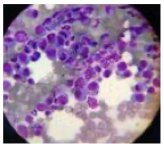
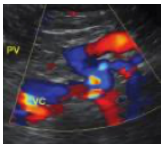
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

**PATIENT**
Sophia Napolitano

**SPECIES**
Canine

**BREED**
Shih Tzu Mix

**SEX**
Spayed Female

**AGE**
8 years

**WEIGHT**
14.1 lbs

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

**IMAGING PERFORMED BY**
Megan Cassels-Conway, DVM

**HOSPITAL NAME**
Central Broward AH

**REFERRING VET**
Janeen Lezcano, DVM

**INVOICE**
11654

**DATE**
9.16.22

## PRESENTING CLINICAL SIGNS

History: P has hx of mild ALP elevation and recent moderate spike of level. P is not on any topical or oral steroid meds. P had cystotomy performed in 2019. Cystoliths had a Ca Phosphate nidus w a struvite shell. P continues to have intermitted UTI. Currently on K citrate, Proviable and cranberry supplements. P is also on c/d canned diet.

Abnormal PE/Chem/CBC/UA Results: 9/22: LDDS test: pre: 7.6, 4hr post: 0.2, 8hr post: 0.8 8/22: Chem: glob: 3.8, ALP: 1251H, choles: 341H, UA: SG: 1.013, 2+ prot, quiet sediment, UCS: no growth, 1.5m on urosdiol, likely off for 2 weeks 6/22: glob: 4.0, ALP: 1270H, choles: 349H, 1 m off zymox, o elected Ursodiol trial 5/22: CBC: WBC: 17.2H, neut: 12728H, monos: 1032H, Chem: glob: 3.8, ALP: 970H, T4: 2.1, UA: SG: 1.016, 2+ prot, 2-3 RBC/hpf, 2-3 struvite crystals/hpf, P ON ZYMOX AT THE TIME, discontinued 7/2021: ALP: 426H

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The **urinary bladder** is moderately distended. The wall is normal in thickness with a smooth mucosal surface. A small amount of gravity dependent, mineralized sand +/- tiny calculi are observed within the lumen. The region of the trigone and the visible portion of the proximal urethra are normal.

The **left kidney** is normal in size (3.30 cm in length) with a normal shape and smooth peripheral contours. The cortex is diffusely thickened and slightly hyperechoic. There is poor corticomedullary distinction. A hyperechoic medullary band is observed adjacent to the corticomedullary junction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, infarcts or hydroureter.

The **right kidney** is normal size (3.26 cm in length); with a normal shape and smooth peripheral contours. The cortex is diffusely thickened and slightly hyperechoic. There is poor corticomedullary distinction. A hyperechoic medullary band is observed adjacent to the corticomedullary junction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, infarcts or hydroureter.

### *Adrenal Glands*

The **left adrenal gland** is upper limits of normal size (0.39 cm at cranial pole) (0.51 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.

The caudal pole of the **right adrenal gland** is visualized and is upper limits of normal size (0.53 cm in width); with a normal shape, glandular echogenicity and detail. Surrounding vasculature appears normal.

### *Spleen*

The **spleen** is normal in size (0.96 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.

### *Liver*

The **liver** is subjectively normal in size with normal curvilinear peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely homogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion.

The **gall bladder** is moderately distended. The wall is diffusely thickened (up to 0.32 cm), irregular and hyperechoic to mineralized. A scant amount of echogenic debris is observed within the lumen. The cystic and common bile ducts are normal/not seen.

### *Gastrointestinal*

The **gastric lumen** is not distended. The gastric wall is normal in thickness with a normal layering pattern. The small intestinal lumen is not dilated. 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. There is no evidence of an obstructive pattern.

### *Pancreas*

The region of the **pancreas** is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

### *Free Abdomen*

The **peritoneal cavity** is normal. There is no evidence of inflammation or effusion. The abdominal **lymph nodes** are normal/not visible.

## ULTRASONOGRAPHIC FINDINGS

### Primary Findings

- The mineralized of the gall bladder wall (aka "porcelain" gall bladder) is most consistent with cholecystitis. However, in rare instances, it can be associated with biliary carcinoma.

- Suspected benign diffuse hepatopathy. Top differentials include vacuolar hepatopathy and/or regenerative nodular hyperplasia. Inflammatory disease is considered less likely, given the normal ALT. Infiltrative neoplasia is also possible but considered unlikely, given the sonographic appearance of the liver.

### Secondary Findings

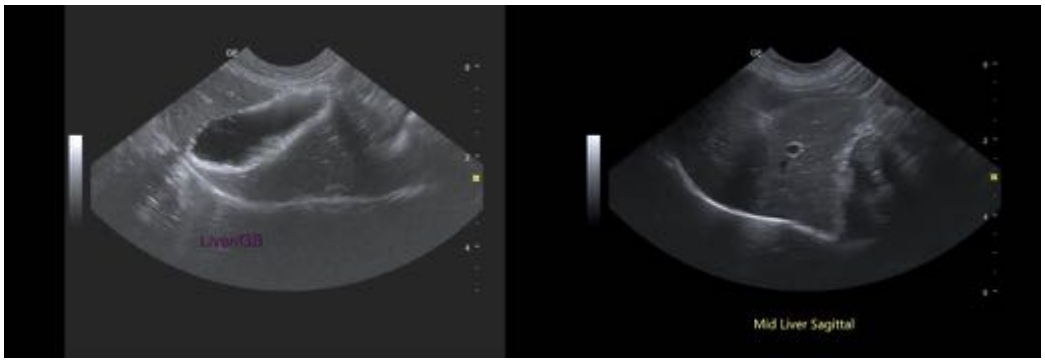
- The bilateral renal changes are most consistent with chronic interstitial nephrosis/nephritis with nonobstructive nephrocalcinosis.

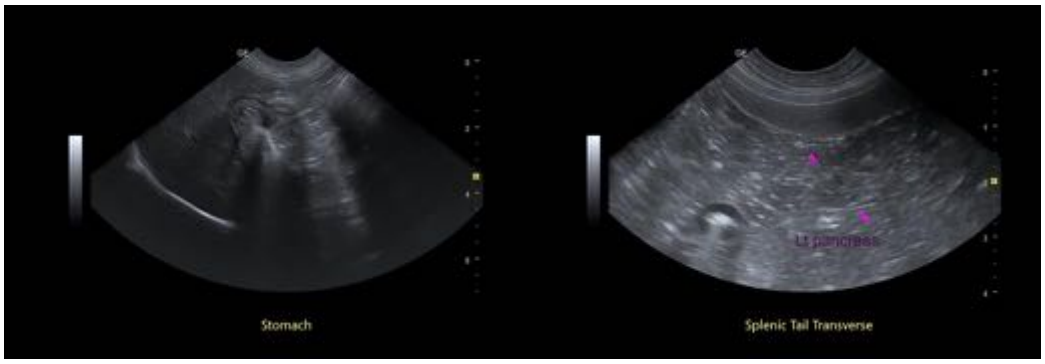
- Urinary bladder sand +/- tiny calculi

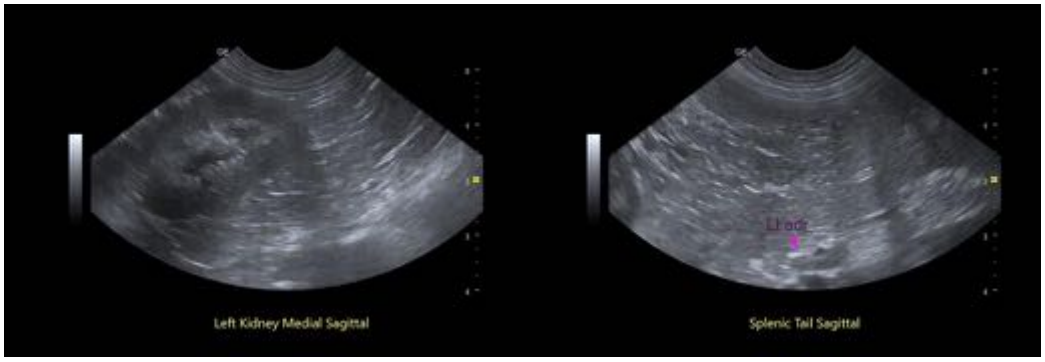
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

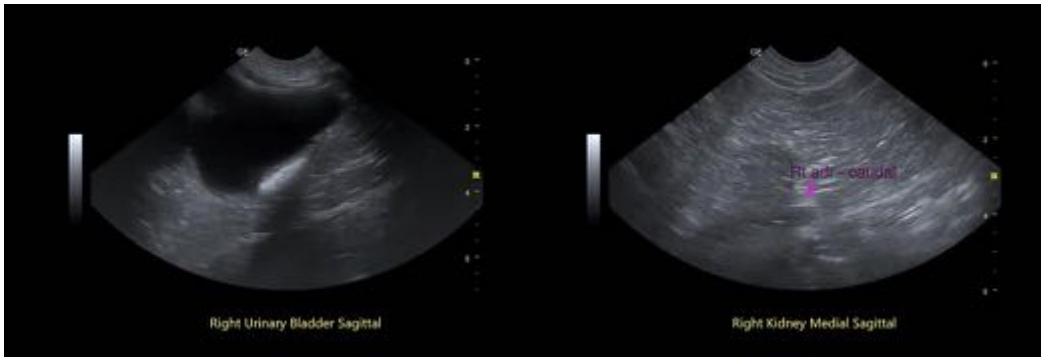
- Consider empirical treatment for cholescystitis (i.e., amoxicillin-clavulanic acid), Ursodiol, +/- Denamarin. If the liver values do not improve within 7-10 days of initiating therapy, the antibiotics should be discontinued. Regardless, the patient's liver values should be monitored periodically (i.e., every 2-3 months) to assess for progression. If liver values continue to worsen, repeat abdominal imaging may be warranted.

- The urinary bladder sand should be closely monitored, either sonographically or radiographically to assess for the development of discreet calculi.


Liver/GB
Mid Liver Sagittal


Stomach
Splenic Tail Transverse


Left Kidney Medial Sagittal
Splenic Tail Sagittal


Right Urinary Bladder Sagittal
Right Kidney Medial Sagittal


**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.

**Andrea Nicastro**, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)
info@SonoPath.com