



**PATIENT**

Zipper Alexander

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Spayed Female

**AGE**

15 years

**WEIGHT**

4.1 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**

Blue Pearl Specialists  
Mt. Pleasant

**REFERRING VET**

Dr. Bianucci

**INVOICE**

10557

**DATE**

1/17/22

**PRESENTING CLINICAL SIGNS**

**Clinical Exam Findings:**

Zipper is a 15 yr fs Shih Tzu Mix presented for kidney and gall stones. O says she was fine before thurs. and on thurs she started vomiting. and on Sunday, vomited a couple more times. O went to rdvm on monday. they did BW, and radiographs. she hasn't eaten since Sunday.

meds: cerenia and metronidazole

hx: mammary mass excision in Nov. os known about the gall stones since then too.  
diet- hills science.

LL

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is mildly to moderately distended. The wall is of appropriate thickness for the level of repletion, with a mildly irregular mucosal surface. Several cystic calculi are observed. The region of the trigone and the proximal urethra, visible to a depth of 2 cm, are normal.

The left kidney is normal in size (4.07 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild to moderate loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. Several nonobstructive nephroliths are visualized. Mild pyelectasia is present (0.30 cm in the longitudinal plane). There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal in size (3.77 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild to moderate loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. Several nonobstructive nephroliths are visualized. Trace pyelectasia is present. There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is mildly enlarged (0.54 cm at cranial pole) (0.81 cm at caudal pole) (2.02 cm in length); with an irregular shape. The parenchyma at the caudal pole is hyperechoic to heterogenous in appearance. Glandular echogenicity and detail at cranial pole are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

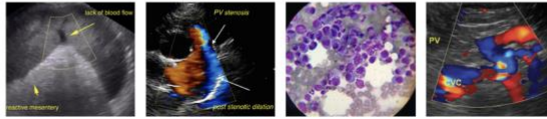
The right adrenal gland is upper limits of normal size (0.96 cm at cranial pole) (0.55 cm at caudal pole) (2.02 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**Spleen**

The spleen is normal in size (0.71 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 hypoechoic relative to the spleen. A 2.56 x 1.33 cm hyperechoic to heterogenous nodule/mass is observed in the region of the right medial lobe, adjacent to the diaphragm. The remaining parenchyma



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is homogenous. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion.

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The gall bladder is moderately distended. The wall is normal in thickness. A moderate to large amount of aggregated, echogenic, suspended sludge in a partially stellate pattern is observed within the lumen. The cystic and common bile ducts are normal/not seen.

## BREED

Shih Tzu

### **Gastrointestinal**

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is mildly 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.

## SEX

Spayed Female

### **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.

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### **Free Abdomen**

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

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### **Other**

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

## INTERPRETED BY

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

## ULTRASONOGRAPHIC FINDINGS

### IMAGING

#### PERFORMED BY

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

### Primary Findings

- Bilateral nonspecific age-related renal changes with nonobstructive nephrolithiasis and mild pyelectasia
- Cystic calculi
- Gall bladder mucocele
- The hepatic nodule/mass could be consistent with a benign process (i.e., regenerative nodule. Alternatively, neoplasia, adenoma, adenocarcinoma is also possible.

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### Secondary Findings

- The bilateral adrenal changes are most consistent with hyperplasia

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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Given the azotemia, the following diagnostics/therapeutics should be considered:
  1. Urinalysis and urine culture and sensitivity



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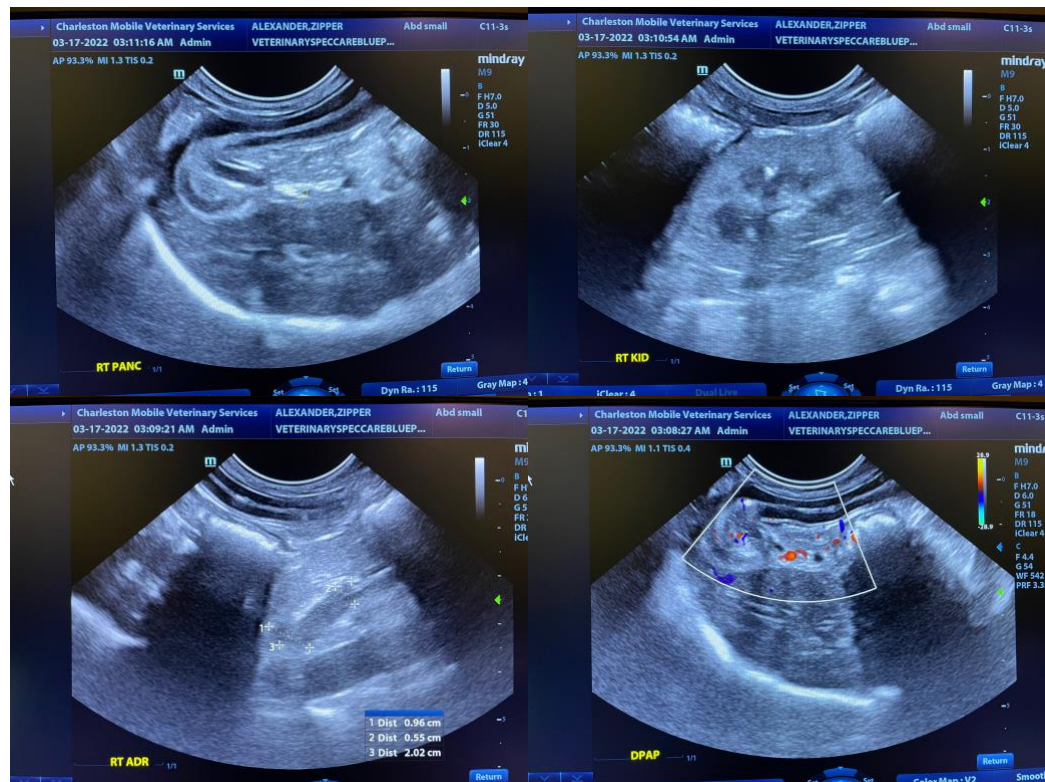
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2. UPC (if proteinuria is present)
  3. Baseline blood pressure measurement
  4. IV fluid diuresis along with gastric protectants, antiemetics (as needed), and broad-spectrum antibiotic therapy (while awaiting urine culture and sensitivity results).
  5. Transition to a prescription renal diet when the patient is eating again.
- Regarding the gall bladder mucocele, initiation of Ursodiol therapy is recommended at this time, since the patient is not currently a good anesthetic candidate. The gall bladder should be closely monitored sonographically every 4 weeks to assess for progression.
  - Regarding the cystic calculi, consider an attempt at medical dissolution. If the patient can be stabilized in terms of renal disease, a cystotomy with stone removal, analysis and culture can be considered along with a potential cholecystectomy. Surgery, if pursued, should be performed by a board-certified surgeon. Three-view thoracic radiographs are recommended prior to any anesthetic event.





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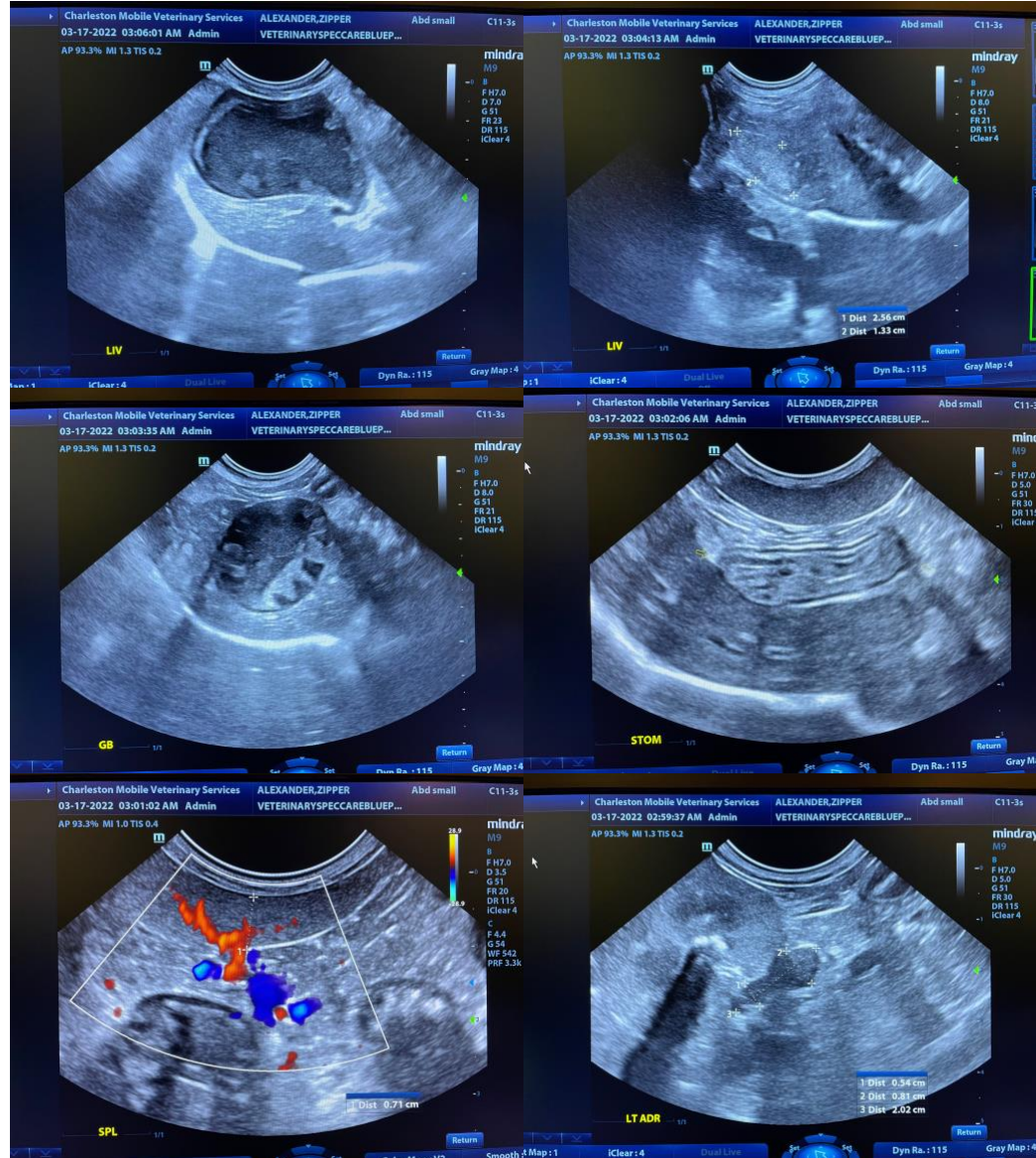
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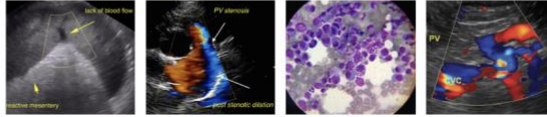
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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



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