



**PATIENT PRESENTING CLINICAL SIGNS**

Gomez Taylor History of high grade bilateral heart murmur, LS pain Past 1-2 months has been having thin, soft stools noted some abdominal distension as well Presented end of July with firm abdominal distension, radiographs revealed loss of serosal detail. Concerned re: ascites Initiated Furosemide but no change in condition noted. Loose stools persist. Furosemide 0.5mg/kg BID

**SPECIES**

Canine Abnormal PE/Chem/CBC/UA Results: Rads - loss of serosal detail. Bloodwork - ALT 123 ALP 170 PLT 660 in June 2022

**BREED**

Chihuahua

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**SEX**

Neutered Male

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, or masses. There is a small 0.22 cm hyperechoic focus that appears to have a shadow in some images. Findings are most consistent with a small calculus. Correlate with abdominal radiographs, urinalysis and culture.

**AGE**

14 Years

Visualization of the prostate is challenging due to its intrapelvic location and the amount of free abdominal fluid. There is the impression of an enlarged prostate measuring 1.6 cm in diameter. Correlate with rectal exam findings and radiographs. If this patient was neutered at a young age, this could be consistent with an enlarged prostate.

**WEIGHT**

10 Pounds

The left kidney has a normal shape and size (3.43 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**INTERPRETED BY**

Kathleen Sennello DVM,  
MS, Diplomate ACVIM  
(Small Animal Internal  
Medicine)

The right kidney has a normal shape and size (3.54 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**IMAGING PERFORMED BY**

Crystal Hill

**Adrenal Glands**

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

**HOSPITAL NAME**

Mountain AH

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. No evidence of a mass effect.

**REFERRING VET**

Dr. Woodward

**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.

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The liver is large in size and irregular. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature appear dilated and congested. The visualized areas of the biliary tract appear normal. No focal nodules or cystic lesions are observed.

**DATE**

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The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened (0.35 cm) with adherent debris. There is a large amount of primarily non-organized echogenic debris. There is



**PATIENT**

Gomez Taylor

no evidence of bile duct dilation. These changes can be consistent with an early gall bladder mucocele. There is a large amount of echogenic fluid surrounding the gallbladder, likely enhancing the appearance of the gallbladder wall and causing some edema.

**SPECIES**

Canine

**Gastrointestinal**

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm 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.

**BREED**

Chihuahua

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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.)

**SEX**

Neutered Male

Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

**AGE**

14 Years

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 prominent and hypoechoic as compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions.

**WEIGHT**

10 Pounds

**Free Abdomen**

There is a large volume of echogenic free fluid. No lymphadenopathy is noted. The omentum is of increased echogenicity diffusely.

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Medicine)

**PRIMARY FINDINGS**

- Small pinpoint mineralization visualized within the urinary bladder – Recommend radiographs, urinalysis and culture.
- Questionably enlarged prostate – Correlate with radiographs and digital rectal exam. If the prostate is enlarged, consider the age of neutering. If the patient was neutered prior to puberty, this could indicate prostatic pathology (possible neoplasia?).
- Large, heterogeneous, irregular liver with dilated/congested vasculature – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The vascular congestion is concerning for possible passive congestion, intrathoracic disease (cardiac, pericardial, etc.).
- Large gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.
- Large volume echogenic free fluid – Recommend fluid analysis and cytology.

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

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**REFERRING VET**

Dr. Woodward

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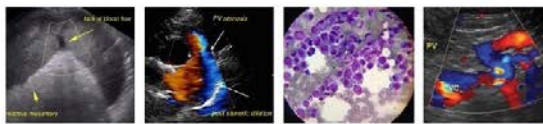
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**SECONDARY FINDINGS**

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.

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- Prominent, hypoechoic pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

Neutered Male

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The liver is large and irregular and surrounded by a large volume of echogenic free fluid. The hepatic vasculature appears prominent and congested, most concerning for possible intrathoracic disease such as congestive heart failure, pericardial effusion, or an obstructive vascular lesion. Recommend 3-view thoracic radiographs and cardiac ultrasound. Additionally, recommend sampling and analysis of the free abdominal (I believe this is being done).

The liver appears significantly abnormal, so there may be additional liver disease present. A liver function test and fine needle aspirate of the liver could be considered, ideally if the abdominal fluid can be resolved.

There is a very small calculus visualized in the urinary bladder. Correlate these findings with abdominal radiographs. Consider a urinalysis and culture.

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**WEIGHT**

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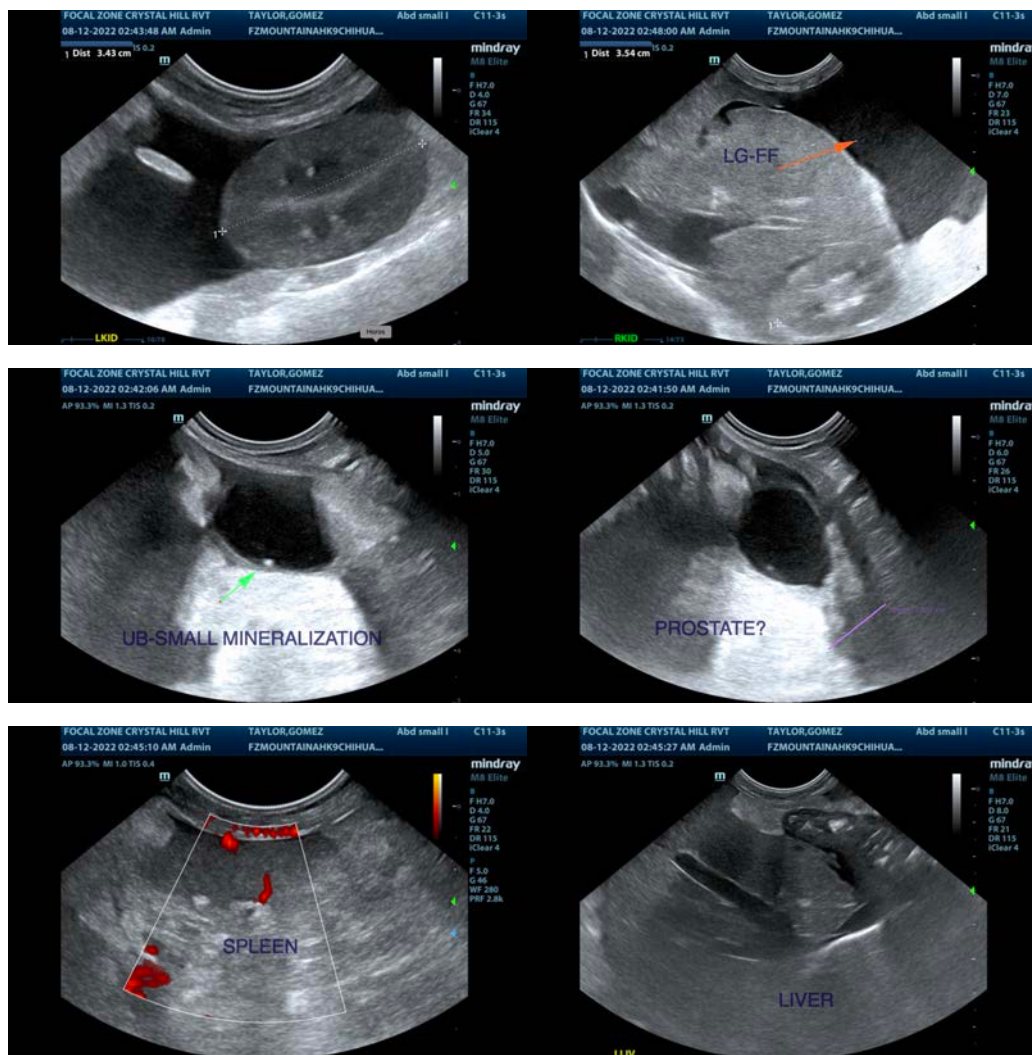
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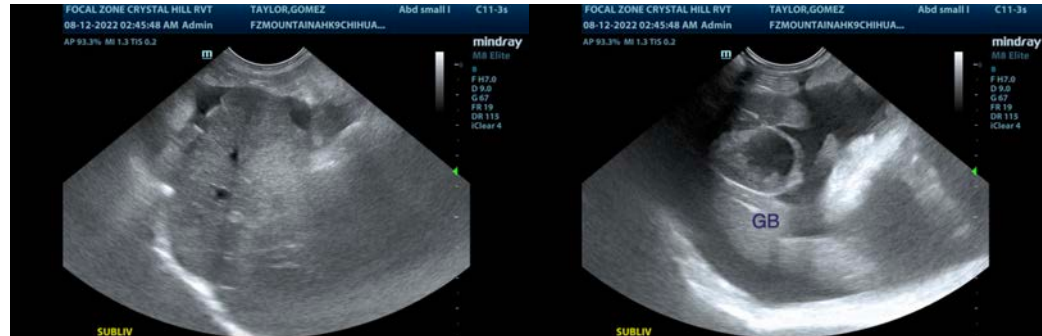
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

kathleen.sennello@sonopath.com