

**PATIENT PRESENTING CLINICAL SIGNS**

Daisy Saibini

History: Chief Concern/Provisional Diagnosis: rule outs for elevated ALT, ALP and GGT pet is being sedated for chest rads so we scheduled an abdominal u/s at the same time History/PE: pet presented in early October for trouble breathing and a 6-8 month history of thick mucoid nasal discharge obstructing both nostrils. Appetite and energy are wnl. Attempts at topical mupirocin on nares doesn't affect the thick mucoid discharge. The pet is challenging to medicate and needs sedation for diagnostics. Labwork reveals hypercholesterolemia with fairly normal triglyceride levels on a fasted sample. Spec cPL is wnl. Summary of Lab abnormalities: BUN, ALT, ALP, GGT all elevated as is cholesterol (847), triglyceride only mildly elevated (341) on fasted sample DDX for elevated cholesterol include endocrine, thyroid and pancreatitis (despite normal spec cPL)

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

Female, spayed

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

*Urinary System*

The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with anechoic urine. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

**AGE**

14 Years

The left kidney is normal size (3.69 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal to mild loss of corticomedullary distinction. Mild pyelectasia is present (0.39 cm in the transverse plane). There is no evidence of nephroliths, infarcts or hydroureter.

**WEIGHT**

7.5 Pounds

**INTERPRETED BY**

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

The right kidney is prominent in size (4.21 cm in length) with a slightly irregular shape. There is a normal 1:3 cortex to medulla ratio with minimal loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. Trace pyelectasia is present. A 1.76 cm cortical cyst is observed at the caudomedial aspect. The cyst causes capsular expansion. There is no evidence of hydroureter.

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques, RVT

*Adrenal Glands*

The left adrenal gland is mildly enlarged (0.84 cm at cranial pole) (0.85 cm at caudal pole) (2.45 cm in length) with a normal shape and smooth peripheral contours. The parenchyma is subtly heterogeneous with mild loss of glandular detail. The phrenicoabdominal vein and surrounding vasculature are normal.

**HOSPITAL NAME**

Aspen Animal Wellness  
Center

The right adrenal gland is normal size (0.58 cm at cranial pole) (0.38 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.

**REFERRING VET**

Dr. Betsy Phillips

*Spleen*

The spleen is subjectively normal in size (0.79 cm in width at the level of the hilus) with normal curvilinear peripheral contours. The parenchyma is of appropriate echogenicity and echotexture. Numerous pinpoint hyperechoic to mineralized foci are observed throughout the organ. Splenic vasculature appears normal with no evidence of thrombosis.

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11/16/21



**PATIENT** *Liver*

Daisy Saibini The liver is subjectively prominent in size with swollen curvilinear peripheral contours. The parenchyma is isoechoic relative to the spleen and exhibits mild heterogeneity. No distinct focal lesions are observed. Hepatic vasculature and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is distended and has a bi-lobed confirmation. The wall is normal in thickness. a large amount of aggregated echogenic suspended sludge in a stellate pattern is observed both lobes. The cystic and common bile ducts are normal/not seen.

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***Gastrointestinal***

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern. There is evidence of mucosal speckling in some segments. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

***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.

***Free Abdomen***

There is no evidence of free fluid. The abdominal lymph nodes are normal/not visible.

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**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings:**

- Bi-lobed gallbladder with mucocele formation.
- Non-specific diffuse hepatopathy. Differentials include age-related pathology +/- concurrent inflammation. Infiltrative neoplasia is possible but considered unlikely.

**Secondary Findings:**

- The pancreatic changes are most consistent with age-related remodeling/fibrosis.
- The small intestinal mucosal speckling has been associated with enteritis in some patients. Correlation with clinical findings is recommended.
- Dystrophic mineralization within the spleen. This finding is typically secondary to an endocrinopathy (i.e., Cushing's disease).
- Mild left adrenomegaly.
- Bilateral age-related renal changes with a right cortical cyst.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**



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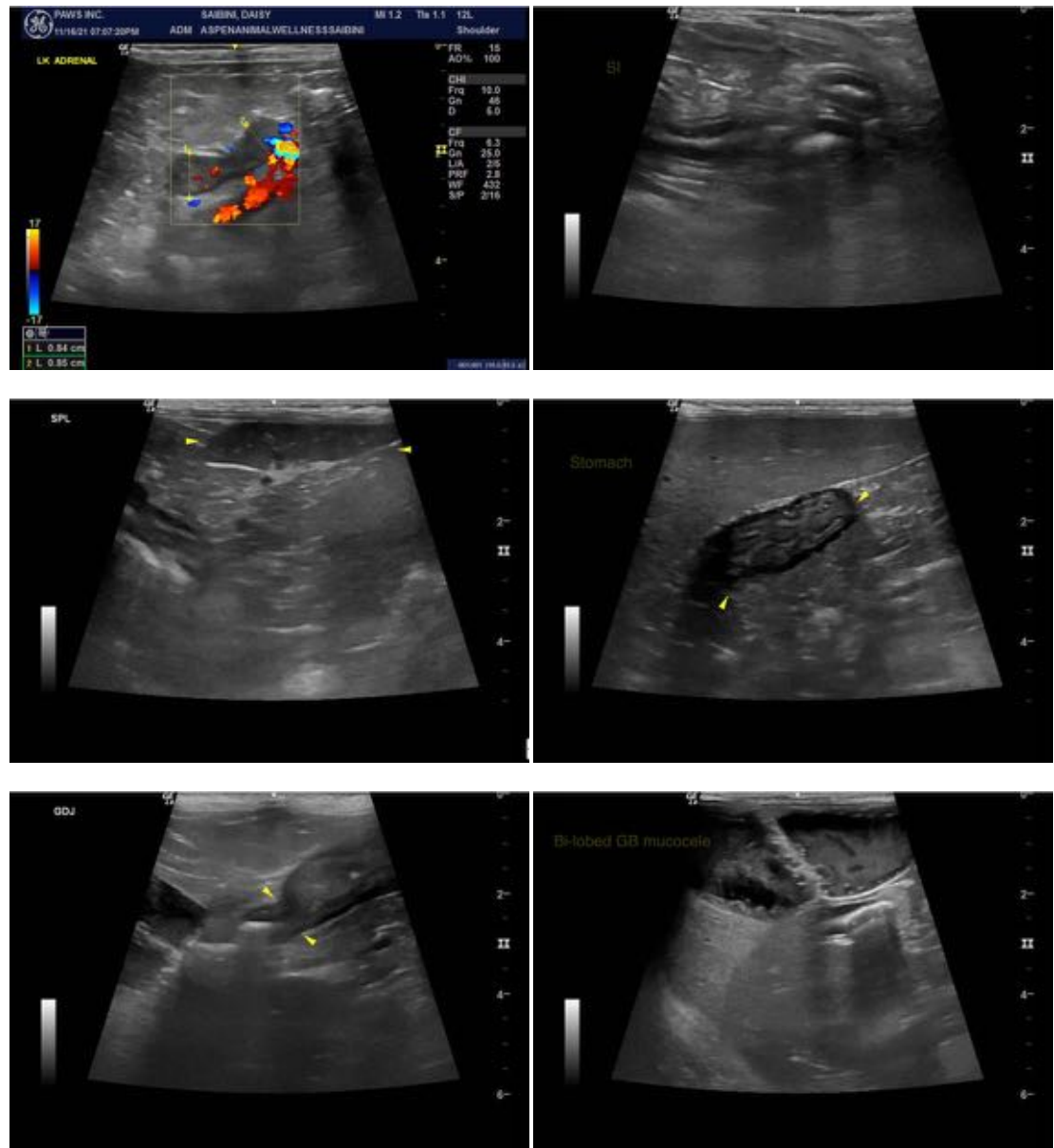
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- If the patient's respiratory issues can be stabilized, a cholecystectomy and liver biopsy should be considered as gallbladder mucoceles can potentially rupture, resulting in bile/septic peritonitis. In the meantime, initiation of Ursodiol therapy is recommended with serial sonographic monitoring (i.e., every 4-6 weeks) of the gallbladder to assess for progression. If surgery is pursued in the future, referral to a board-certified surgeon is recommended due to the potential for perioperative complications. Depending on the liver enzyme pattern (i.e., if the ALT is significantly elevated) broad spectrum antibiotic therapy should be considered as empirical treatment for cholangiohepatitis.
- If the patient develops clinical signs of Cushing's disease, further testing may be warranted.





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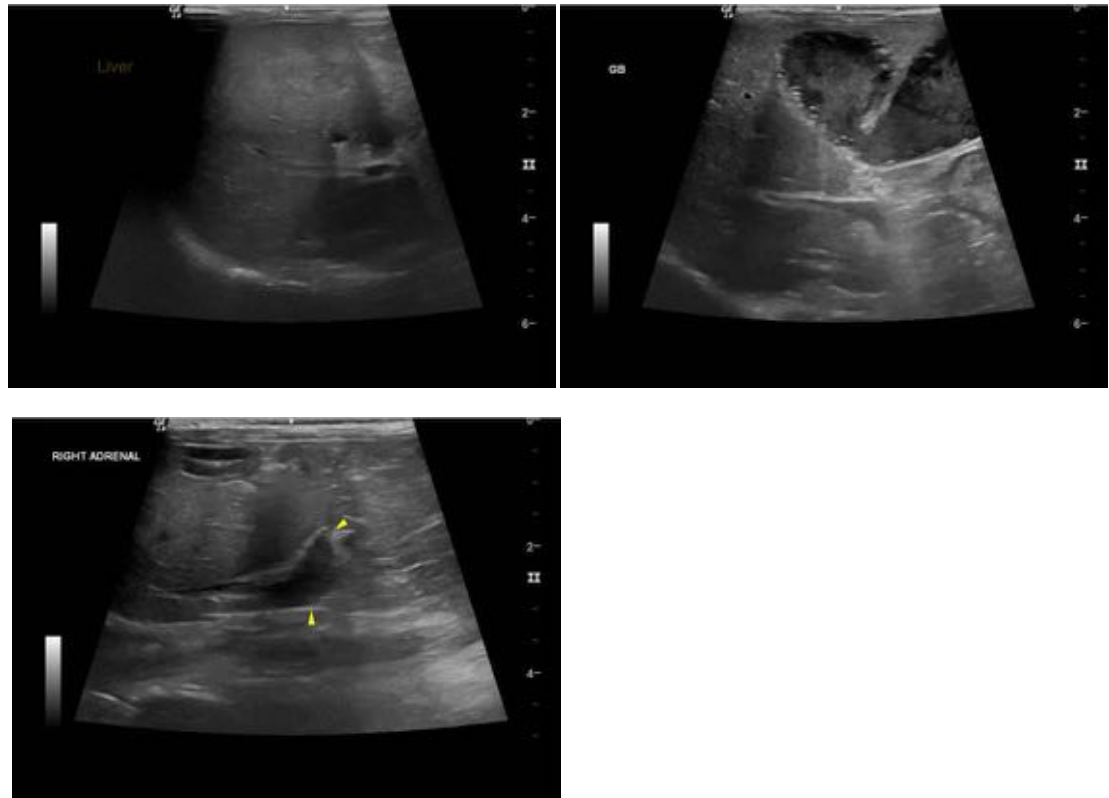
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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