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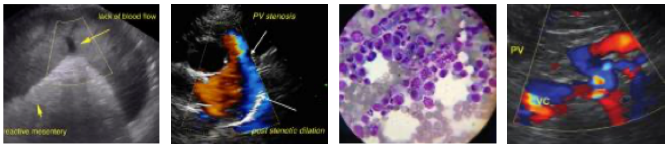
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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PATIENT
Gidget Lupica

SPECIES
Canine

BREED
Chihuahua Mix

SEX
Spayed Female

AGE
15 years

WEIGHT
15.4 lbs

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

IMAGING PERFORMED BY
Kelly Vazquez

HOSPITAL NAME
Animal General Hudson

REFERRING VET
Dr. Krstevski

INVOICE
11481

DATE
8.24.22

PRESENTING CLINICAL SIGNS

History: Patient presents for liver and kidney enzymes. Clinically normal.
Abnormal PE/Chem/CBC/UA Results: ALT 236, creatinine 3.8, K 5.6, MCV 81, platelet count 749.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** wall is 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.

The **left kidney** is normal size (3.47 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is hyperechoic. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The **right kidney** is enlarged (5.05 cm in length); with an irregular shape. The cortex is hyperechoic. There is a normal 1:3 cortex to medulla ratio with mild loss of corticomedullary distinction. A 1.55 x 1.43 cm cortical cyst is observed at the caudal pole. The lesion causes capsular expansion. In addition, a 0.90 cm multiseptated cortical cyst is observed at the cranial pole. This lesion also causes slight capsular expansion. There is no evidence of pyelectasia, nephroliths, or hydroureter. Renal vasculature is normal.

Adrenal Glands

The **left adrenal gland** is mildly enlarged (0.48 cm at cranial pole) (0.68 cm at caudal pole) (2.19 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.

The **right adrenal gland** is normal size (0.92 cm at cranial pole) (0.47 cm at caudal pole) (2.07 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 subjectively normal in size (1.16 cm in width at the level of the hilus) with normal curvilinear peripheral contours. The parenchyma is mildly heterogenous in appearance with a few ill-defined multiseptated cystic areas. An example of a cystic area measures 0.67 x 0.42 cm. Splenic vasculature is normal with no evidence of thrombosis.

Liver

The **liver** is subjectively prominent in size with normal curvilinear peripheral contours. The parenchyma is isoechoic relative to the spleen and heterogenous in appearance. No distinct focal lesions are observed. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion. The portal vein to caudal vena cava ratio is approximately 1: 1.

The **gall bladder** lumen is moderately distended. The wall is thin and smooth. Several polypoid-like lesions are arising from the luminal surface. A moderate 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.

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 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

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

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- The gall bladder changes are consistent with a developing mucocele.
- Nonspecific diffuse hepatopathy. Differentials include inflammatory disease (i.e., bacterial cholangiohepatitis, chronic active hepatitis), hepatotoxicosis (i.e., copper), Leptospirosis, other hepatopathy, +/- concurrent benign age-related changes (i.e., regenerative nodular hyperplasia and/or vacuolar hepatopathy).
- Bilateral degenerative renal changes with left cortical cysts

Secondary Findings

- The cystic splenic lesions could be consistent with benign cysts or emerging vascular tumors.
- The mild left adrenomegaly may be a normal variant for this patient or may represent early hyperplastic change.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

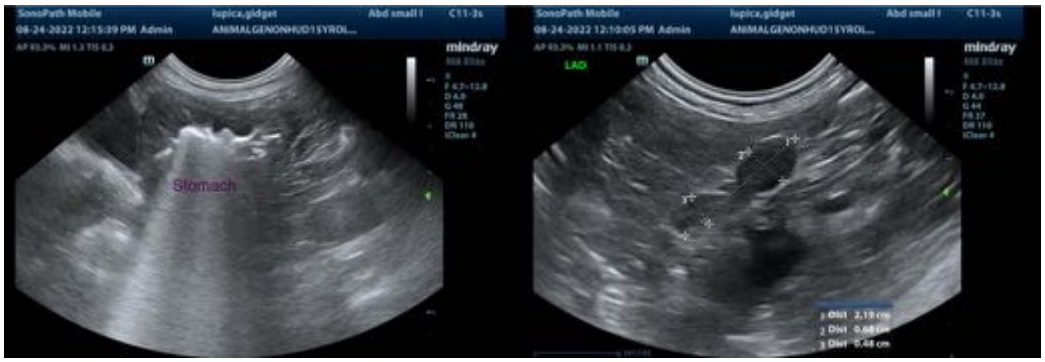
Given the gall bladder changes, Ursodeoxycholic acid (Ursodiol) at 10-15 mg/kg once a day is recommended. Serial sonographic monitoring (e.g., every 6-8 weeks) of the gall bladder is recommended to assess for progression to a fully-formed mucocele.

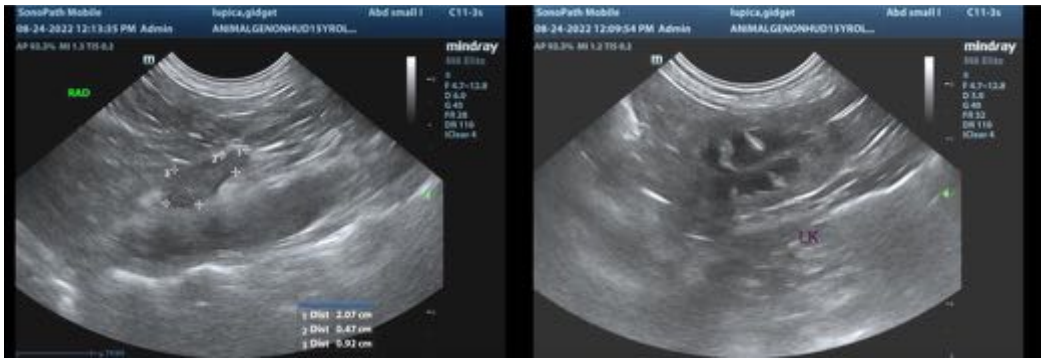
Regarding the elevated ALT, consider pre-and postprandial serum bile acids to assess hepatic function. Leptospirosis testing can also be considered, particularly if the ALT elevation is acute in nature and/or if clinical suspicion for disease is high.Hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy) may be necessary for further evaluation. Hepatic cytology is best for evaluating for infiltrative neoplasia (i.e., lymphoma and vacuolar hepatopathy), but is less useful in identifying other hepatopathies. If surgical biopsies are pursued, aerobic and anaerobic bile cultures and acquisition of additional hepatic tissue samples for potential copper quantitation are recommended along with assessment of the gall bladder, +/- cholecystectomy. Prior to surgery, clotting times (PT/PTT) and three-view thoracic radiographs are recommended. If surgery is pursued, the risks of anesthesia (given the patient's renal disease) must be weighed against the benefits of surgery.

Regarding the patient's azotemia, consider the following:

1. Urinalysis +/- urine culture and sensitivity
2. UPC (if proteinuria is present)
3. Baseline blood pressure measurement
4. Transition to a prescription renal diet if the patient will tolerate it
5. Serial monitoring (i.e., every 3 months) of the patient's renal values to assess for progression

Regarding the cystic splenic lesions, consider a recheck ultrasound in 3=4 weeks to assess for progression.





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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