

PATIENT PRESENTING CLINICAL SIGNS

Annabelle Chard Recent history of urinary accidents in the house. Has a history of azotemia and elevated liver enzymes. History of hypothyroidism. Is on Soloxine and gabapentin.
SPECIES March 2023: Creatinine 3.1. BUN 42. ALT 292. ALP 254.
 Canine June 2023: Creatinine 2.6. BUN 34. ALT 479. ALP 328.

BREED ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Maltese Urinary System

SEX The urinary bladder wall is normal in thickness and the mucosal surface is smooth. The bladder is moderately distended. Luminal contents are anechoic. No cystic calculi are observed. The region of the trigone is normal.

Spayed Female

AGE The left kidney is normal in size (3.34 cm in length) with a normal shape. The cortex is isoechoic relative to the spleen and mildly thickened with moderate loss of corticomedullary distinction. A few nonobstructive nephroliths are visualized. Trace pyelectasia is present. There is no evidence of infarcts or hydronephrosis. Renal vasculature is normal.

15 years

WEIGHT The right kidney is normal in size (3.54 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. The cortex is isoechoic relative to the spleen. There is mild to moderate loss of loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

5.7 lbs

INTERPRETED BY

Andrea Nicastro,
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ACVIM (Small Animal
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Adrenal Glands

The left adrenal gland is mildly enlarged (0.49 cm at cranial pole) (0.55 cm at caudal pole) with a normal shape and homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

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The right adrenal gland is in normal size (0.46 cm at cranial pole) (0.44 cm at caudal pole) with a normal shape and homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

HOSPITAL NAME

Long Point AH

Spleen

The spleen is normal in size (0.75 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.

REFERRING VET

Dr. Brett Burton

Liver

The liver is subjectively prominent to enlarged with swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely heterogenous, with several, ill-defined hyperechoic nodules/areas throughout the organ (the largest measuring 1.16 cm in diameter). 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.

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

DATE

7.7.23



PATIENT *Gastrointestinal*

Annabelle Chard

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Maltese

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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 is normal in thickness with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The ileocecolic junction and colonic wall are normal. There is no evidence of an obstructive pattern.

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

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

Other

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

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- The gallbladder changes are suggestive of an emerging mucocele.
- The hepatic parenchymal changes are nonspecific and could be secondary to an inflammatory hepatopathy (i.e., bacterial cholangiohepatitis, chronic hepatitis), infiltrative neoplasia, hepatotoxicosis (i.e., copper), regenerative nodular hyperplasia, vacuolar hepatopathy, other hepatopathy, or some combination thereof.
- Bilateral chronic nephropathy with nonobstructive nephrocalcinosis and trace left pyelectasia.

Secondary Findings

- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- Mild left adrenomegaly

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Regarding the liver changes, consider the following:
 1. Pre-and postprandial serum bile acids
 2. Cytologic evaluation of the liver should be considered in this patient if clotting status is appropriate. A fine needle aspirate using a 25-gauge needle is recommended. If cytologic evaluation is inconclusive, consider a surgical liver biopsy with aerobic and anaerobic bile cultures and acquisition of additional hepatic tissue samples for copper quantitation.
 3. If a more conservative approach is desired, consider empirical treatment for cholangiohepatitis with amoxicillin-clavulanic acid along with hepatic antioxidants. If liver values do not begin to improve within 7-10 days of initiating therapy, antibiotics should be discontinued and hepatic



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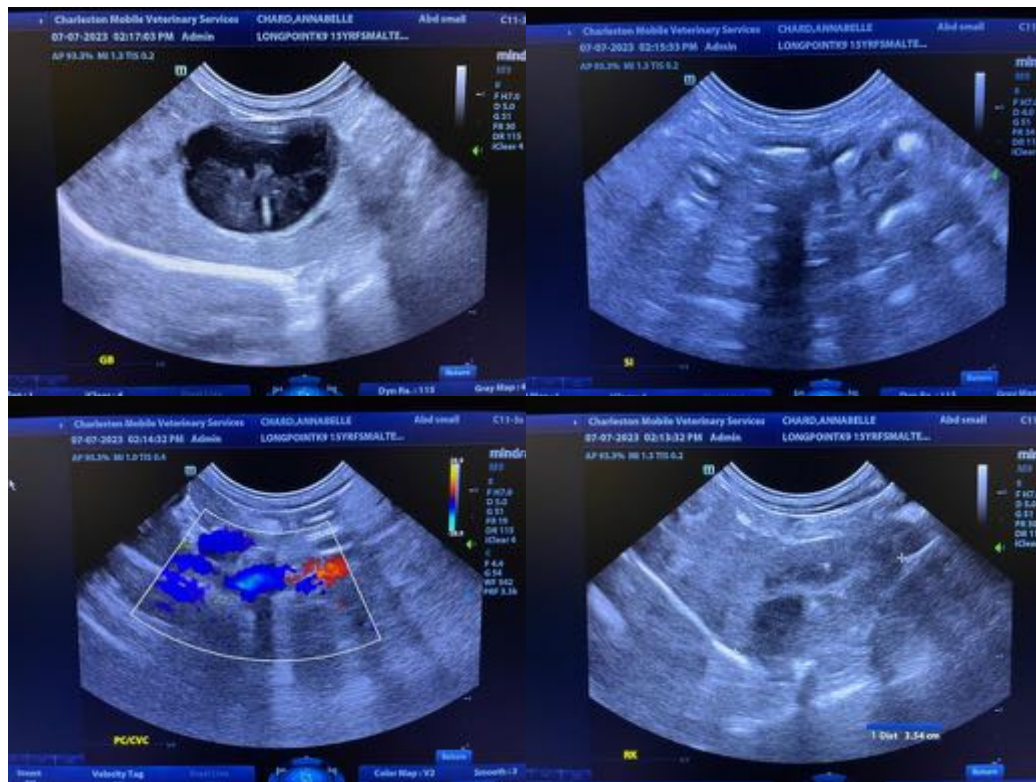
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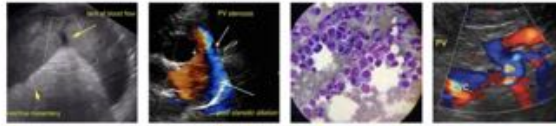
tissue sampling reconsidered. If values do improve, a 4–6-week course of treatment is recommended.

4. Leptospirosis testing can also be considered, if the clinical suspicion for disease is high.

- Given the gall bladder changes, Ursodeoxycholic acid (Ursodiol) at 10-15 mg/kg once a day is recommended. Serial sonographic monitoring (e.g., every 4-6 weeks) of the gall bladder is recommended to assess for progression to a fully-formed mucocele.

- Regarding the azotemia, consider the following:
 - Urinalysis
 - Urine culture and sensitivity
 - UPC (if proteinuria is present in the absence of infection)
 - Baseline blood pressure measurement
 - Transition to a prescription renal diet (if not already receiving one).





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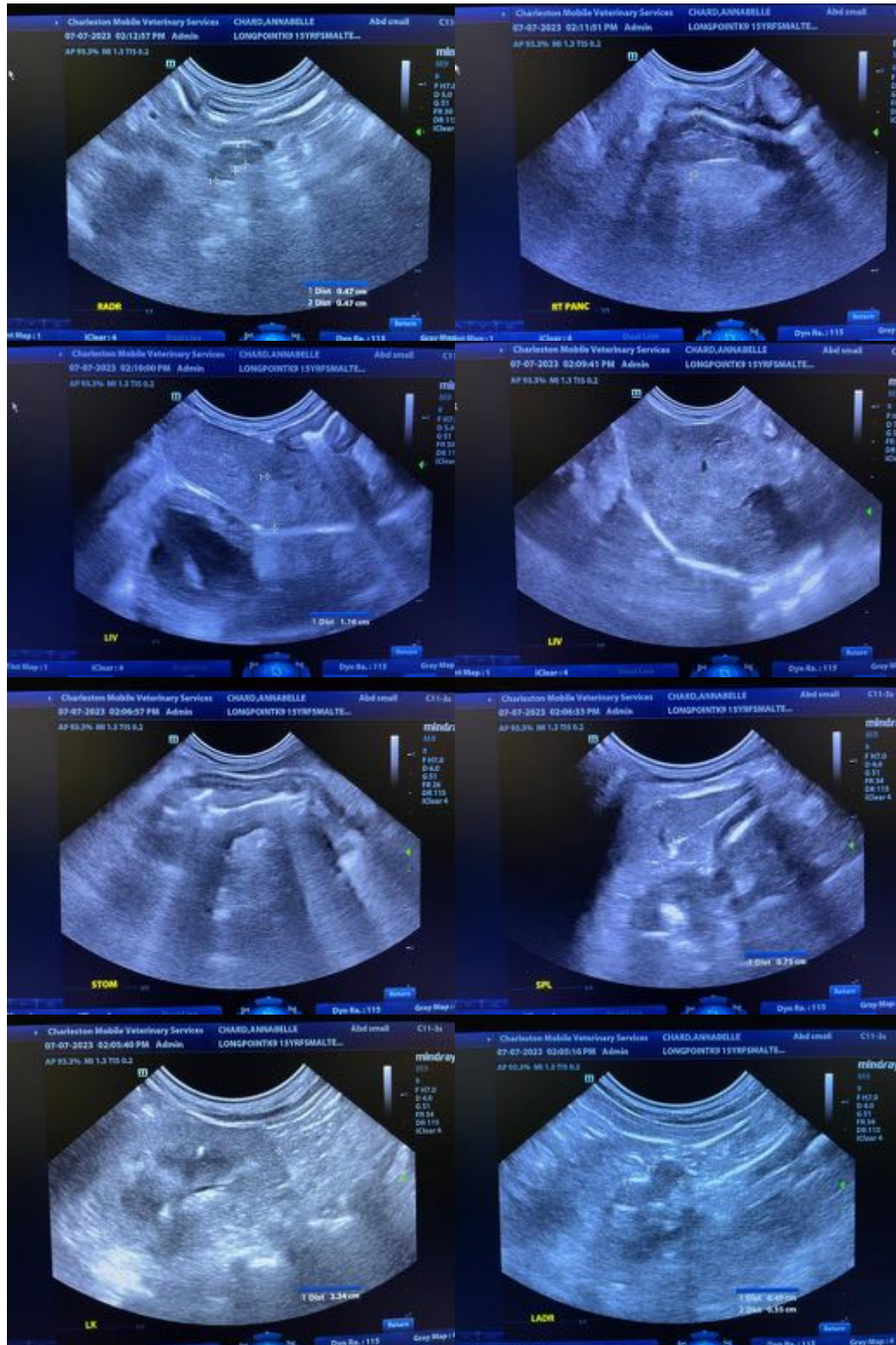
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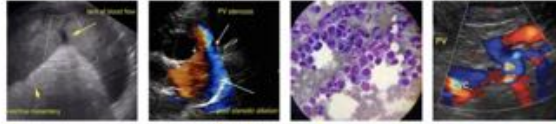
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Annabelle Chard

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.

SPECIES

Canine

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.

BREED

Maltese

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