


PATIENT PRESENTING CLINICAL SIGNS

Rogi Rueda
SPECIES Canine
 History: Patient was presented 9/29/22 with vomiting and diarrhea. Patient was anorexic and depressed. Has vomiting and diarrhea recurrent approximately in the last 2 years. Patient was hospitalized and given during stay: Cerenia IV, Metronidazole IV, Pantoprazole IV, Unasyn IV, Diigel PO, Provable PO, Gabapentin PO, Rimadyl SQ. and was on Gastro low fat diet. Was sent home with Famotidine PO, Cerenia PO and Metronidazole PO. Patient came for recheck 10/11/22 not presenting vomiting or diarrhea and is currently on: Probiotics: 1 capsule every 24 hours Hepaticlear: 1/2 chew every 24 hours.

BREED Schnauzer
 Abnormal PE/Chem/CBC/UA Results: Bloodwork 9/29/22 CBC: RBC: 9.63 M/uL (5.65-8.87) HCT: 68.4% (37.3-61.7) HGB: 23.5g/dL (13.1-20.5) WBC: 2.68 K/uL (5.05-16.76) NEU: 1.46 K/uL (2.95-11.64) BAND: SUSPECTED LYM: 0.83 K/uL (1.05-5.10) CHEM: ALT: 192 U/L (10-125) ALKP: 1859 U/L (23-212) CHOL: 395 mg/dL (110-320) LIPA: 1937 U/gL (200-1800) K: 3.3 mmol/L (3.5-5.8) XRAYs: WNL FECAL: NEGATIVE BLOODWORK 10/11/22 CBC: WNL CHEM: ALT: 310 U/L (10-25) ALKP: 1418 U/L (23-212) TBIL: 2.1 mg/dL (0.0-0.9) CHOL: 326 mg/dL (110-320)

 Neutered Male **ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**
Urinary System

AGE 10 years
 The **urinary bladder** is mildly to moderately distended. The wall is diffusely thickened (up to 0.58 cm) with a nodular appearance. A few cystic calculi are observed within the lumen, the largest measuring 0.62 cm in diameter. One of the stones is located within the cystourethral junction. The trigone and the visible portion of the proximal urethra are normal.

WEIGHT 21.7 lbs
 The **prostate** is normal in size (0.77 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

INTERPRETED BY

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

The **left kidney** is normal size (4.93 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. There is no evidence of pyelectasia, infarcts or hydroureter.

The **right kidney** is normal size (5.11 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. There is no evidence of pyelectasia, infarcts or hydroureter.

IMAGING PERFORMED BY

Dr. G. Ferrer, DVM

HOSPITAL NAME

Paseos VC

Adrenal Glands

The **left adrenal gland** is normal size (0.49 cm at cranial pole) (0.47 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. Ricardo Carrasquillo

The **right adrenal gland** is normal size (0.92 cm at cranial pole) (0.52 cm at caudal pole) (2.05 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.

INVOICE

11860

Spleen

The **spleen** is normal in size (1.75 cm in width at the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

DATE

10.20.22

Liver

The **liver** is subjectively enlarged with slightly swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely homogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion.

The **gall bladder** is moderately distended. The wall is normal in thickness. A moderate amount of echogenic debris/sludge is observed within the lumen, some of which is suspended, some of which is adhered to the luminal surface, and some of which is gravity dependent. 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

The **peritoneal cavity** is normal. There is no evidence of inflammation or effusion. The medial iliac **lymph nodes** are visible (left: 1.30 cm in length) (right: 1.08 cm in length). The nodes are normal in shape and echogenicity.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Diffuse hepatopathy. Differentials include vacuolar hepatopathy, regenerative nodular hyperplasia, and/or age-related remodeling. Given the patient's mild to moderate ALT elevation, a concurrent inflammatory process (i.e., chronic hepatitis, bacterial cholangiohepatitis) cannot be completely excluded. Hepatotoxicosis (i.e., copper) is also a consideration. Infiltrative neoplasia (i.e., lymphoma) is possible but considered less likely.
- Cystic calculi. The urinary bladder wall changes are most consistent with polypoid cystitis, possibly secondary to the cystic calculi. However, bladder wall neoplasia (i.e., transitional cell carcinoma) cannot be completely excluded.
- The gall bladder sludge could be secondary to cholestasis or fasting.

Secondary Findings

- Bilateral chronic renal changes with nonobstructive nephrolithiasis.

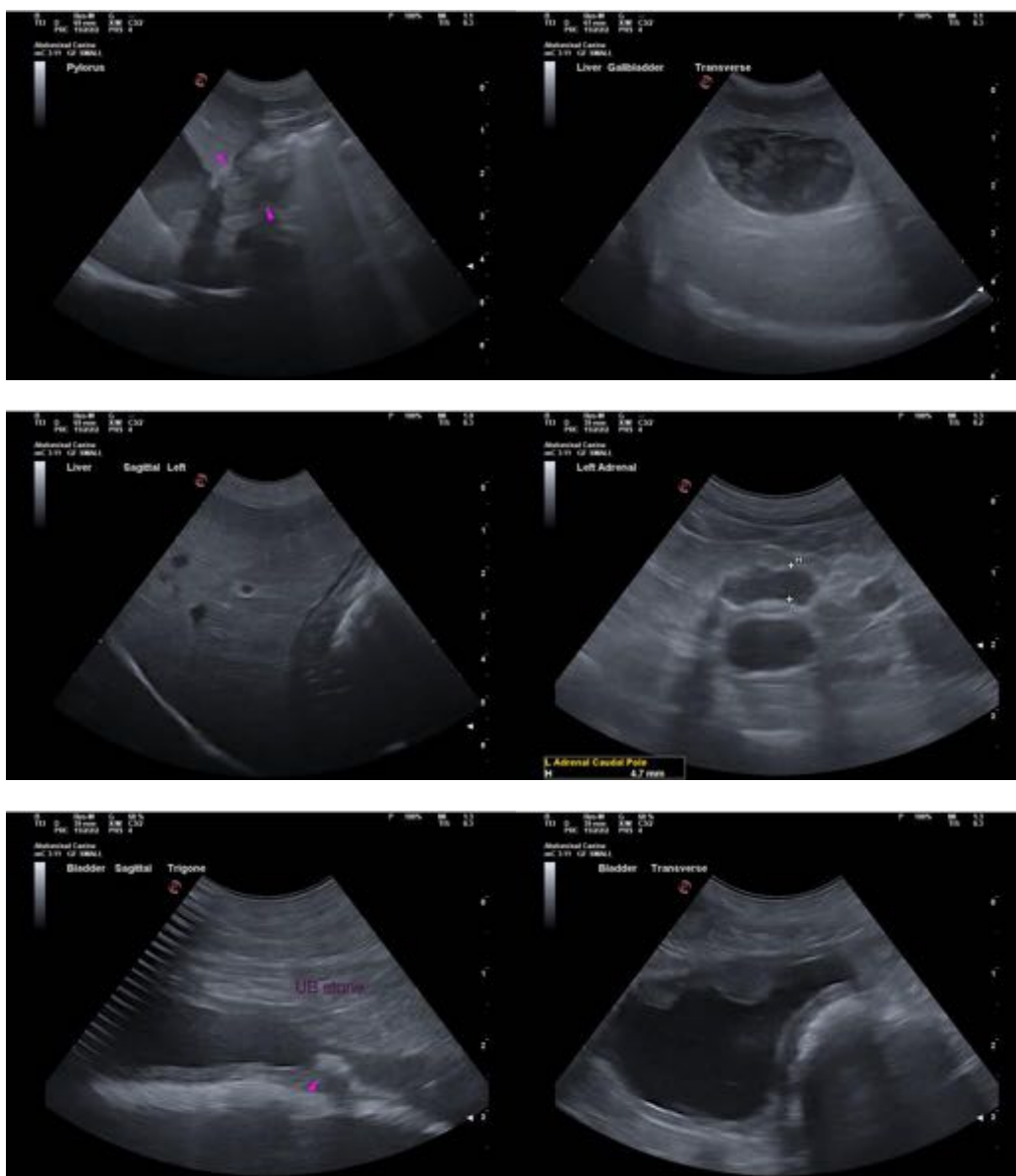
*It is unclear whether the patient's clinical signs are related to a hepatopathy or another concurrent disease process (i.e., GI, mild pancreatitis, other). However, a hepatopathy is favored.

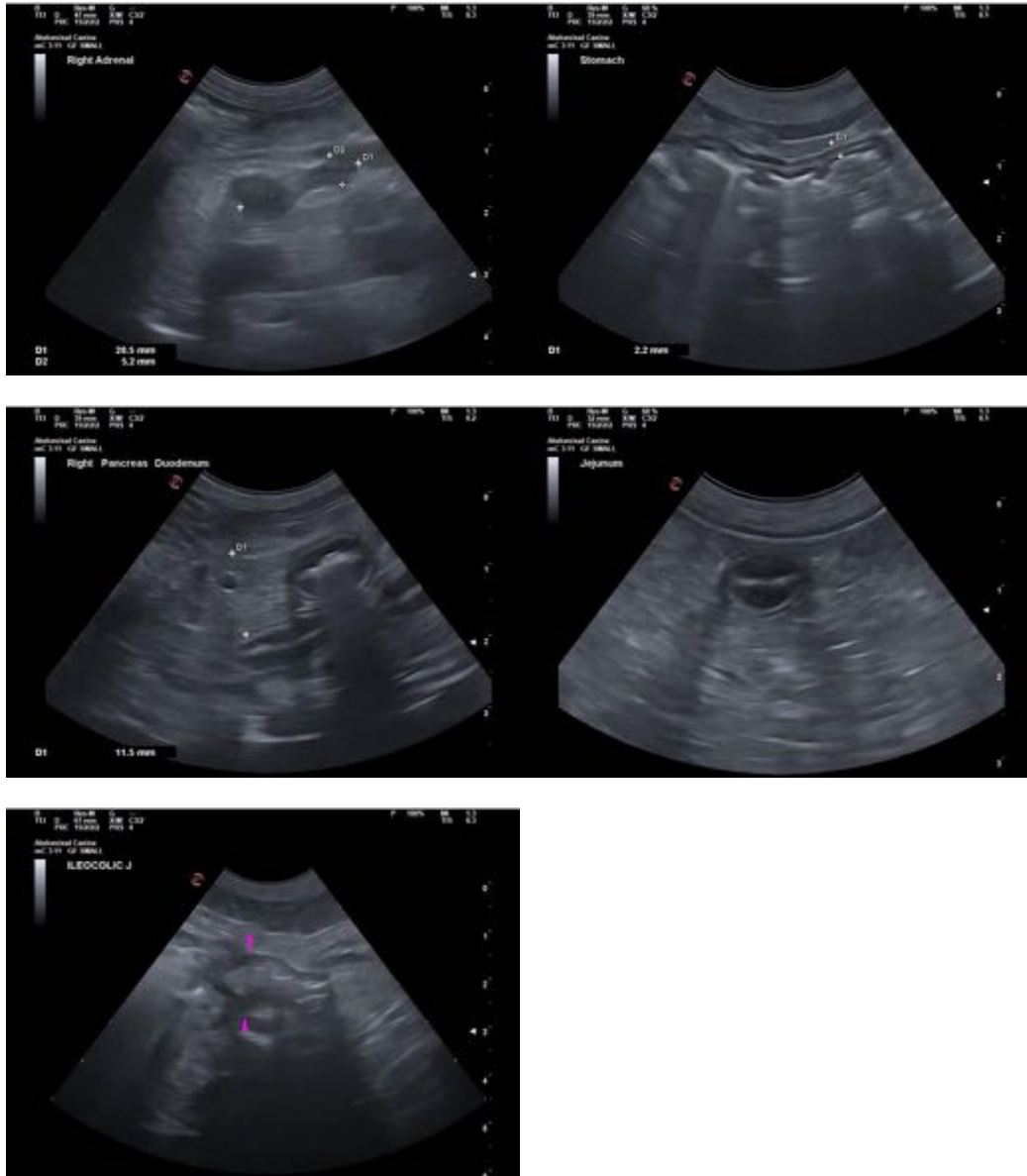
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Consider Leptospirosis testing (i.e., blood and urine PCR, serology), particularly if the clinical suspicion for this disease is high.

Also consider hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy). If surgery is pursued, aerobic and anaerobic bile cultures should be obtained along with additional hepatic tissue samples for potential copper quantitation. In addition, a cystostomy with stone removal, analysis and culture can be considered if the patient is stable under anesthesia. Also consider obtaining GI biopsies at the time of surgery. Three-view thoracic radiographs and clotting times (PT/PTT) should be performed prior to prior to anesthesia.

A malabsorption panel including serum cobalamin and folate, TLI and PLI should also be considered to further evaluate for concurrent maldigestion/malabsorption and pancreatitis.





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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