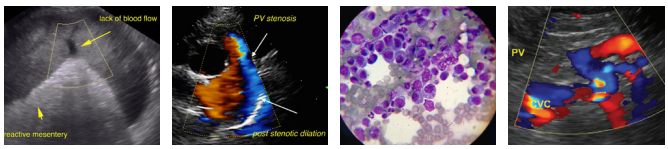
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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1-800-838-4268 info@sonopath.com

PATIENT
Bella Howard

SPECIES
Canine

BREED
Chihuahua X

SEX
Spayed Female

AGE
5 Years

WEIGHT
20.8 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Shari Reffi, CVT

HOSPITAL NAME
Shohola Vet Hospital

REFERRING VET
Dr. Gramazio

INVOICE
35547

DATE
2/9/22

PRESENTING CLINICAL SIGNS

Not eating, lethargic, swollen L rear leg. Low albumin, non-reg. anemia, elevated neutrophils. Current meds: Zofran 8mg 1/2 bid, Amoxi/Clav 250mg 1/2 bid, Levothyroxine 0.2mg sid, Famotidine 20mg 1/2 sid.
Abnormal PE/Chem/CBC/UA Results: T4 <0.5 (L 1); SDMA 17 (H 14); TP 4.6 (L 5.5); Albumin 1.4 (L 2.7); Alb/GloRatio 0.4 (L 0.7), RBC 4.4 (L 5.3); Hgb 11 (L 13.4); HCT 33.6 (L 38); Neuts 14904 (H 12670); Bands 920 (H 170); Free T4 < 0.3 (L 0.6), < 3.9 (L 7.7). UPC >1.19; USG 1.050

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (4.56 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (4.06 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

The right adrenal gland is normal in size (1.57 cm long x 0.80 cm at the cranial pole and 0.54 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (1.56 cm long x 0.33 cm at the cranial pole and 0.53 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

The liver is subjectively small in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogeneous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distention or congestion. The portal vein to caudal vena cava ratio is normal. This strongly supports against a portosystemic shunt.

The gallbladder contains a moderate amount of non-dependent, mildly aggregated/inspissated sludge. Hypo to anechoic cystic areas are noted between the gallbladder sludge and luminal wall. The wall is otherwise smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion.

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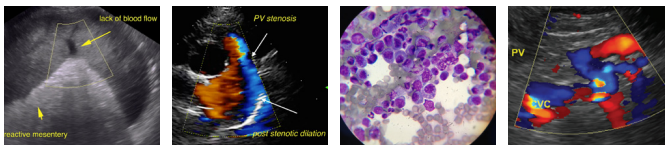

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Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

ULTRASONOGRAPHIC FINDINGS

- Subjective mild microhepatica – Differentials include normal anatomic variant versus vascular anomaly, which is not visibly present in these images. A portosystemic shunt is highly unlikely in this patient.

- Early mucocele – Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. The non-dependent nature of this sludge combined with the cystic areas are suggestive, however, of possible emerging cystic mucosal hyperplasia or early gallbladder mucocele.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the clinical signs combined with the young age at which she was diagnosed with hypothyroidism, recommendations include a gastrointestinal malabsorption panel including TLI, PLI, folate and cobalamin to Texas A&M GI laboratory with an additional baseline cortisol to rule out unlikely but possible concurrent hypoadrenocorticism. If the baseline cortisol is <2.0, a full follow up ACTH stimulation test is recommended.

There is no evidence of portosystemic shunt present in these images, given the normal diameter of the portal vein. Despite the lack of a portosystemic shunt, bile acids are a reasonable diagnostic, given the subjectively small liver to rule out other causes of microhepatica and to further assess possible decreased liver function resulting in the low albumin.

If bile acids are increased, a follow up abdominal CT scan could be evaluated, followed by surgery for liver biopsy, if necessary based on results. However, a top differential for the majority of this patient's clinical signs is hypothyroidism, and recommendations include more aggressive management of the reported significant hypothyroidism despite current therapy.

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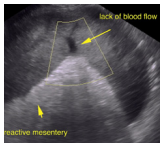

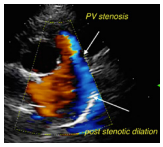

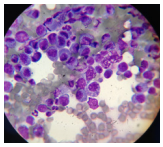
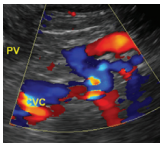

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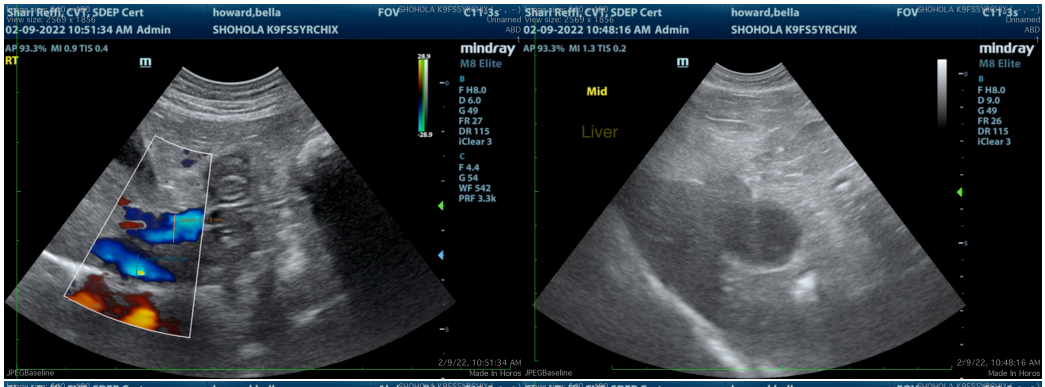

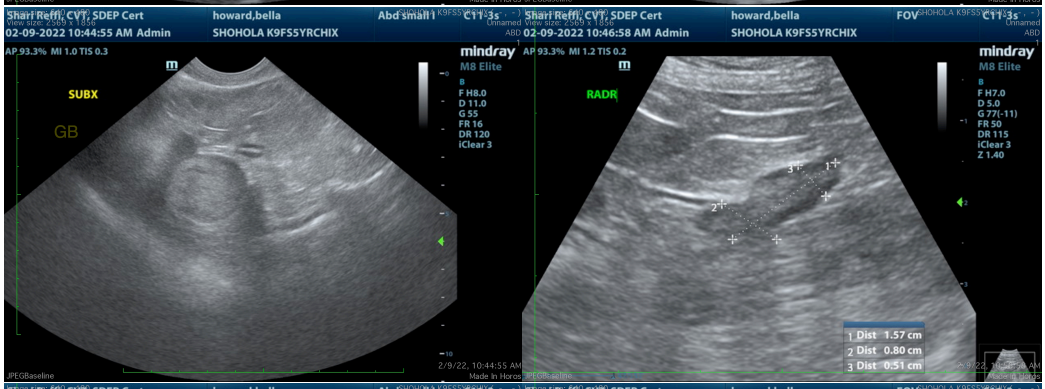

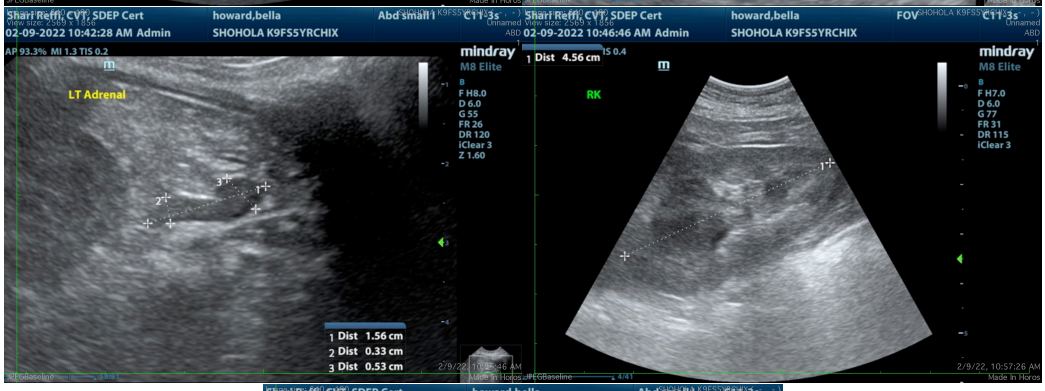

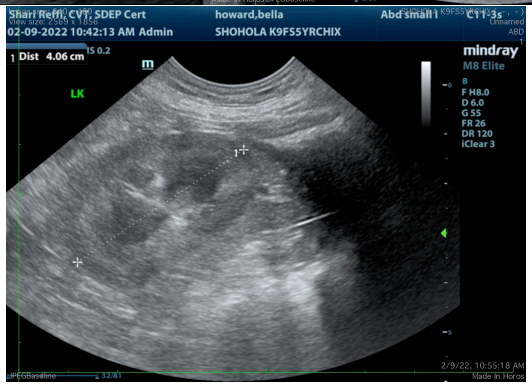

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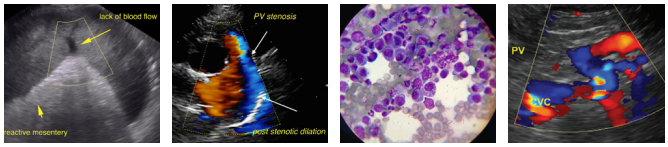

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com