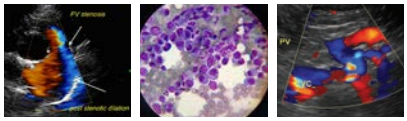
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
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DATE

3/22/23

PATIENT

Mack Wehrung

SPECIES

Canine

BREED

Labrador

SEX

Neutered Male

AGE

2018

WEIGHT

75 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

HOSPITAL NAME

PetVet of Clarksville

REFERRING VET

Dr. Martof

INVOICE

46099

PRESENTING CLINICAL SIGNS

Dilute urine for over a year. sg 1012. inactive sediment. hx of allergies; last summer had episodes of being uncomfortable in the evening that did resolve with gabapentin/metoclopramide/famotidine. only on meds few weeks. doing ok now

Current Medications: None currently.
Lab Results: Chemistries and cbc all WNL. Lepto PCR negative. Cortisol normal. UA- consistently dilute urine 1009-1019 sg first am.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Stephanie Warga RDCS, RVT.

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.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

The right kidney is normal in size (6.34 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. A subtle hyperechoic band parallel to the corticomedullary border is present.

The left kidney is normal in size (6.1 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. A subtle hyperechoic band parallel to the corticomedullary border is present.

Adrenal Glands

The right adrenal gland is normal in size (2.3 cm long x 0.75 cm at the cranial pole and 0.58 cm at the caudal pole), shape and contour. A hyperechoic nodule is noted in the cranial pole. Nodule does not disrupt normal shape and/or architecture. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (2.98 cm long x 0.51 cm at the cranial pole and 0.45 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 mildly decreased in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. 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 free peritoneal effusion noted in these images.

In the cranial abdomen, there is a 1.5 cm x 1.1 cm round, slightly heterogeneous appearing structure that is consistent with a hepatic lymph node.

ULTRASONOGRAPHIC FINDINGS

- **Subtle bilateral medullary rim sign -** This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.

- **Hyperechoic adrenal nodule (cranial pole right adrenal gland) –** Differentials include primary adrenal cortical adenoma or adenocarcinoma, pheochromocytoma, myelolipoma, adrenal hyperplasia secondary to pituitary disease or metastatic disease. Ultrasound alone cannot differentiate between functional and non-functional nodules and/or between benign and malignant disease. Small nodules without other evidence of abdominal disease (to suggest metastatic disease) and/or clinical signs (to suggest adrenal disease) are most often incidental and should be monitored.

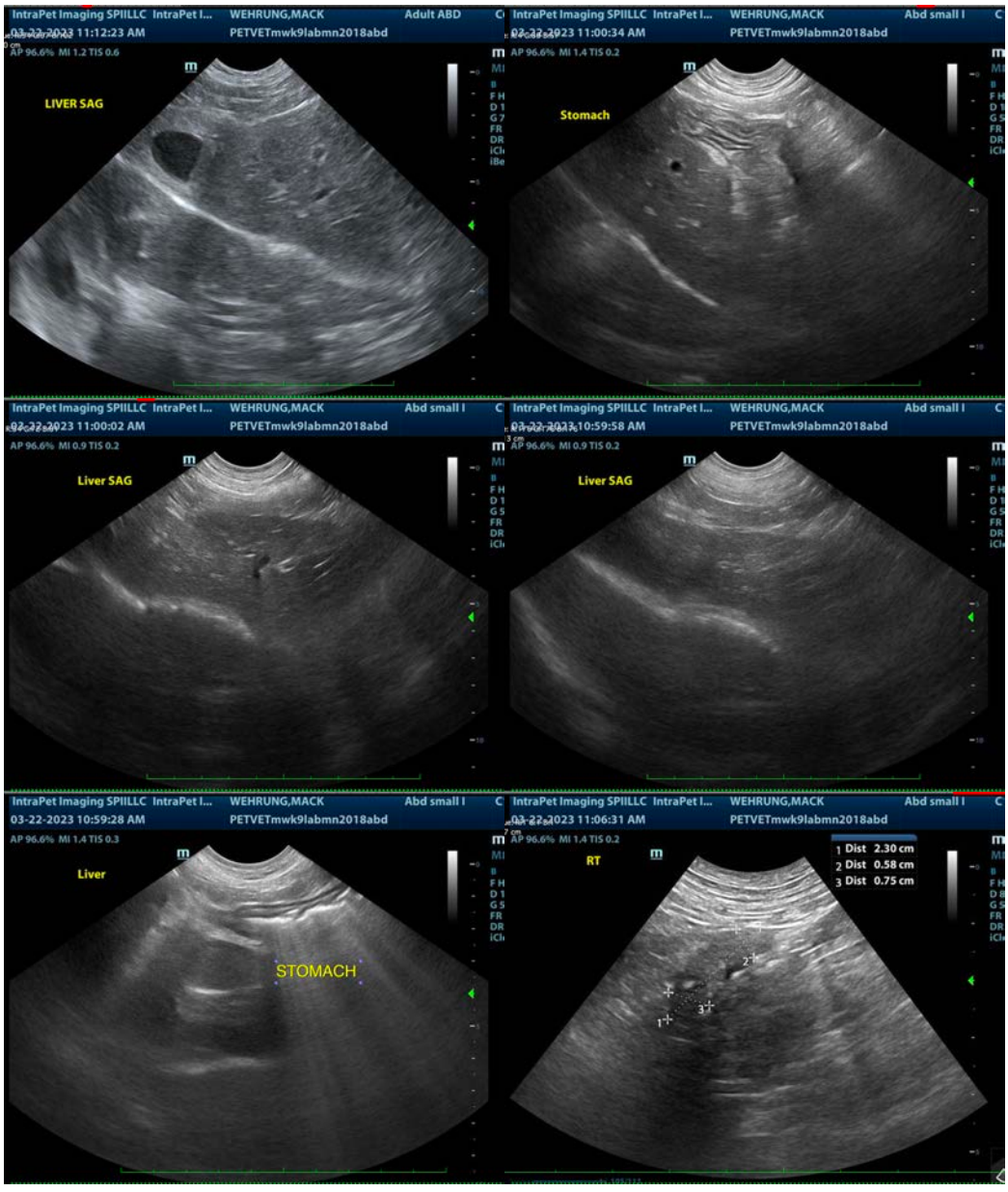
- **Possible mild microhepatica –** This may be a normal patient variant, but a vascular anomaly versus chronic inflammatory end stage hepatopathy versus other can't be definitively ruled out, especially given the suspected enlarged hepatic lymph node, which likely represents a reactive node. However, infiltrative neoplasia cannot be definitively ruled out without tissue sampling.

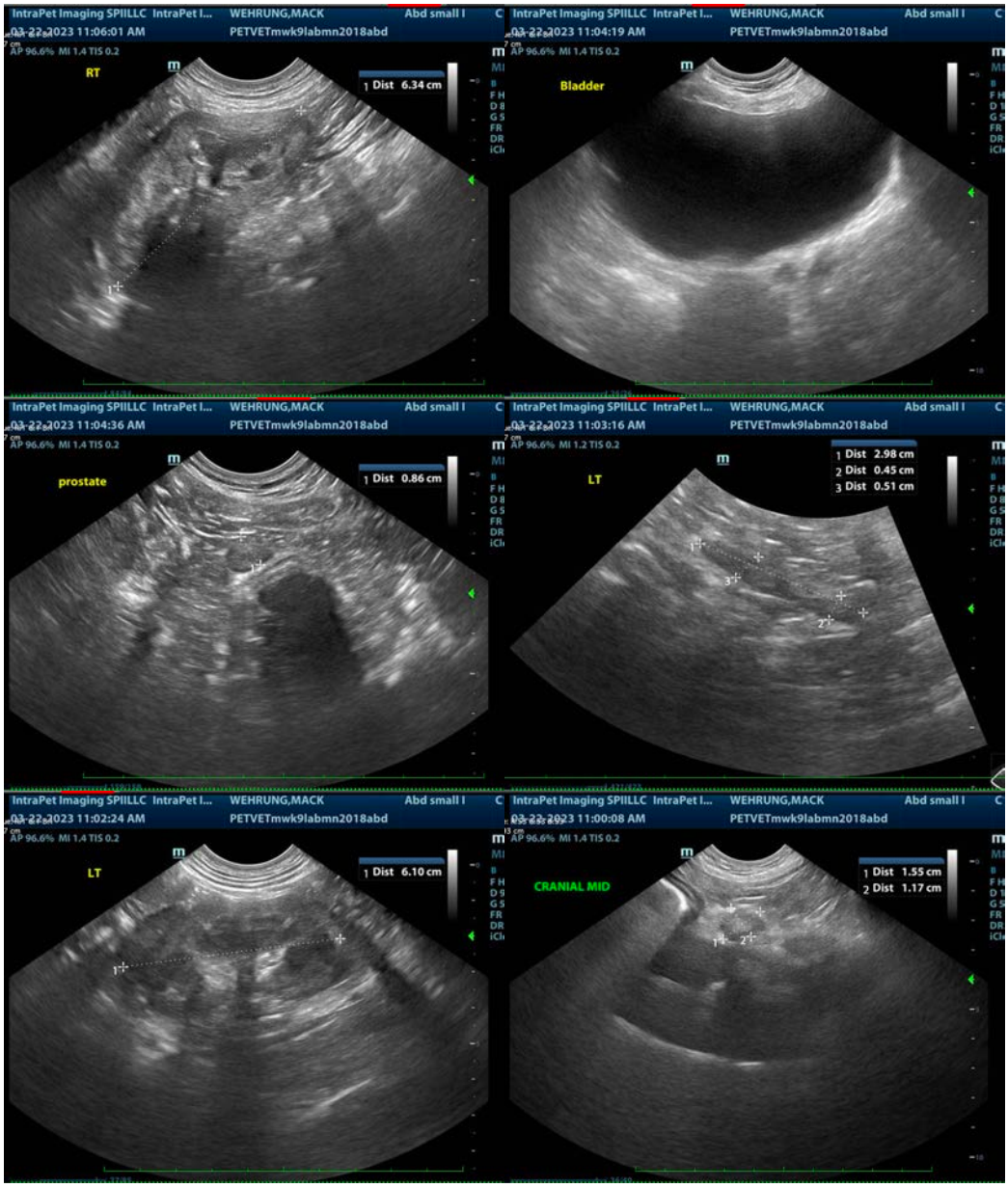
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This patient has reportedly had a very thorough appropriate workup for PU/PD thus far. Based on these images, next steps could include bile acid testing if total bilirubin is normal, followed potentially by a low-dose Dexamethasone suppression test.

Additionally, given the cranial abdominal lymph node, fine needle aspirates of the liver and possibly the lymph node (if it can safely be reached, which is questionable based on location, and if patient's coagulation status is appropriate) could be considered.

If after that a diagnosis is still not obtained, a more advanced workup is indicated, including things like water deprivation test, Desmopressin trial, etc. However, a more advanced workup should be pursued cautiously, and perhaps via consultation with an internist, as the medullary rim sign could indicate that the PU/PD is early or emerging kidney disease.





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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