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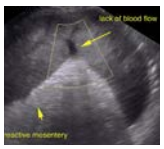
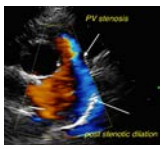
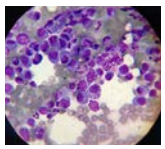
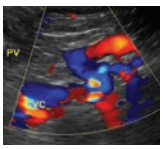





SonoPath.com™
1-800-838-4268 info@sonopath.com

**PATIENT**
Cooper De Assis

**SPECIES**
Canine

**BREED**
Maltese

**SEX**
Neutered Male

**AGE**
2 Years

**WEIGHT**
11.4 Pounds

**INTERPRETED BY**
Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**
Dr. Elaina Petrone

**HOSPITAL NAME**
Long Branch AH

**REFERRING VET**
Dr. Elaina Petrone

**INVOICE**
43463

**DATE**
12/14/22

## PRESENTING CLINICAL SIGNS

Mild elevation of ALT, intermittent vomiting reported

## 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 (3.83 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 hyperechoic band parallel to the corticomedullary border is present.

The left kidney is normal in size (3.92 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 hyperechoic band parallel to the corticomedullary border is present.

### *Adrenal Glands*

The right adrenal gland is normal in size (0.79 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.

The left adrenal gland is normal in size (0.33 cm at the cranial pole and 0.34 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*

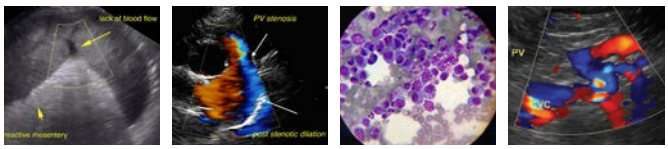
The liver is subjectively small with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without 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 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



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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.

There is no apparent lymphadenopathy noted in these images.

## ULTRASONOGRAPHIC FINDINGS

- **Subjective microhepatica** – Liver size is more reliably assessed via x-rays. However, differentials for a small liver could include normal patient variant versus vascular anomaly versus chronic end stage liver disease versus other.

- **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.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

As is reportedly already pending, bile acids are recommended. If the bile acids are significantly increased (i.e., greater than 100), recheck ultrasound using power doppler at the level of the porta hepatis to further evaluate the portal vein to vena cava ratio, and/or an abdominal CT scan is recommended for a further extrahepatic portosystemic shunt hunt.

If the bile acids are normal and/or only mildly increased, then further evaluation, as is reportedly already planned, with testing for Leptospirosis and a malabsorption/maldigestion gastrointestinal panel are both reasonable next steps.

In the meantime, empirical deworming with a 5-day course of Panacur is recommended.

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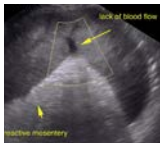
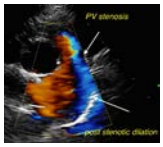
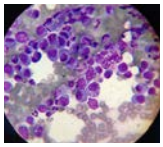
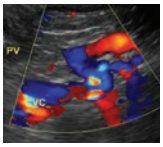

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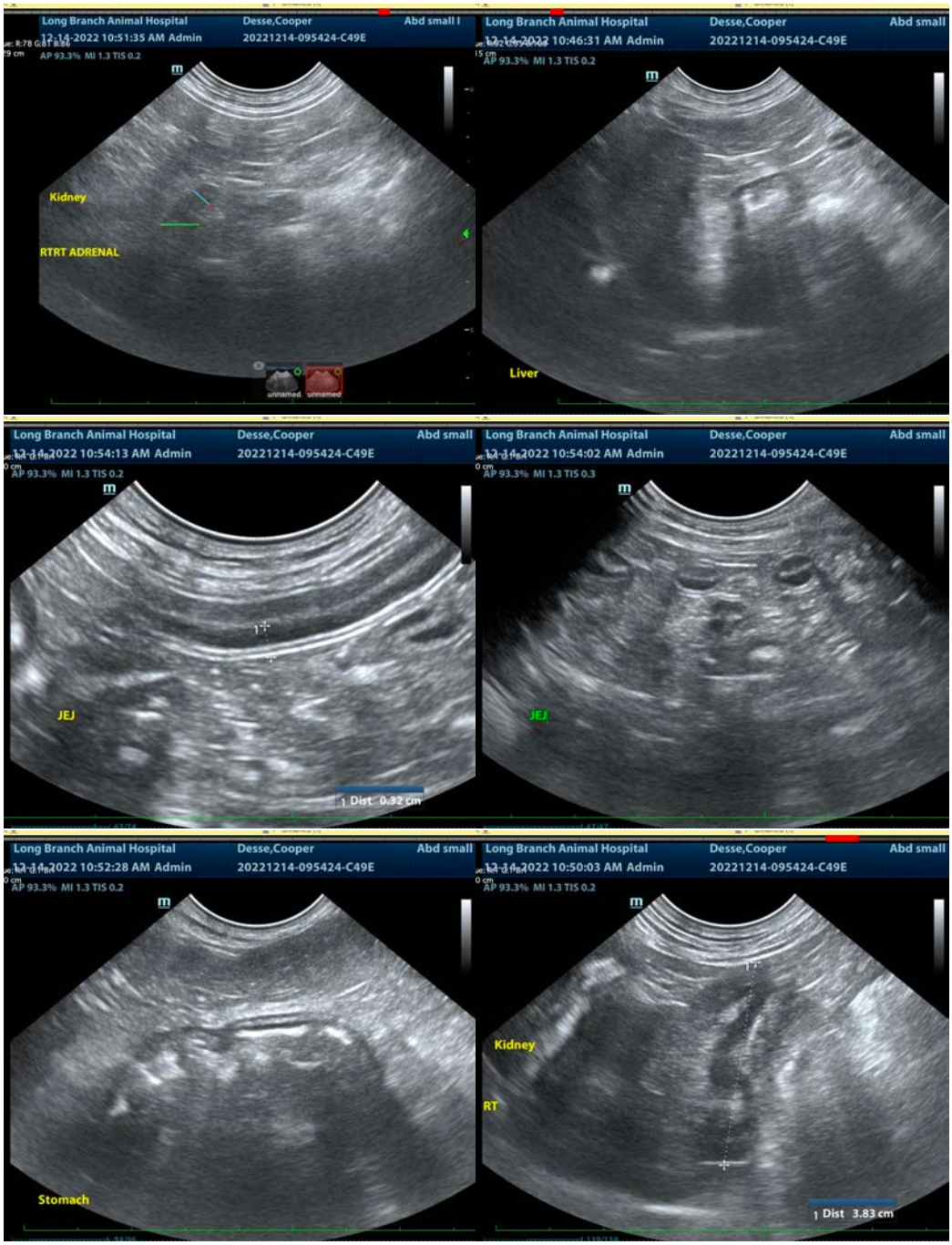

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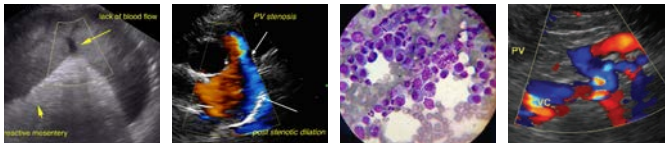

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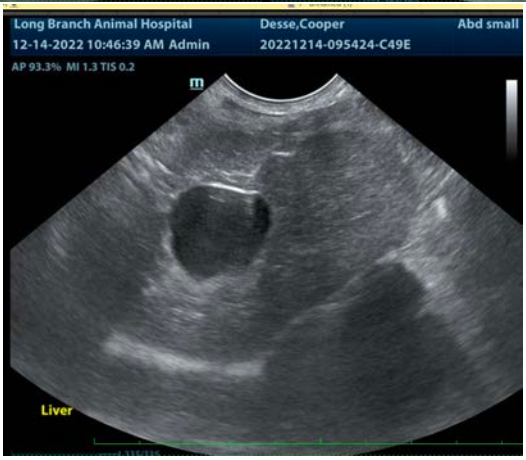


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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