

**DATE PRESENTING CLINICAL SIGNS**

12/3/21 History: Patient presented on 11/17/2021 for a spay. pre-operative bloodwork revealed an increase in alt. due to breed predisposition for pss/microhepatica, bile acid test was recommended. Post prandial results were abnormal, so an AUS was recommended.

PATIENT

Millie Patil Lab Results: alt 193 (0-120); bile acid pre 9.8 (0-10.0) post 57.7 (0-10.0. Attached separately.
Date of Previous IntraPet Ultrasound: No previous IntraPet scans.

SPECIES

Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**BREED****Urinary System**

Toy Poodle

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

SEX

Spayed Female

The left kidney has a normal shape and size (3.43 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

AGE

5/1/21

The right kidney has a normal shape and size (3.86 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

WEIGHT

6.5 Pounds

INTERPRETED BY**Adrenal Glands**

Kathleen Sennello DVM,
MS, Diplomate ACVIM
(Small Animal Internal
Medicine)

The left adrenal gland is normal in size measuring 0.37 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.43 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

IMAGING PERFORMED BY**Spleen**

Andi Parkinson RDMS

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

HOSPITAL NAME

Northwind AH

Liver**REFERRING VET**

Dr. Wilson

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

INVOICE

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

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Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Jejunum wall measured 0.27 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

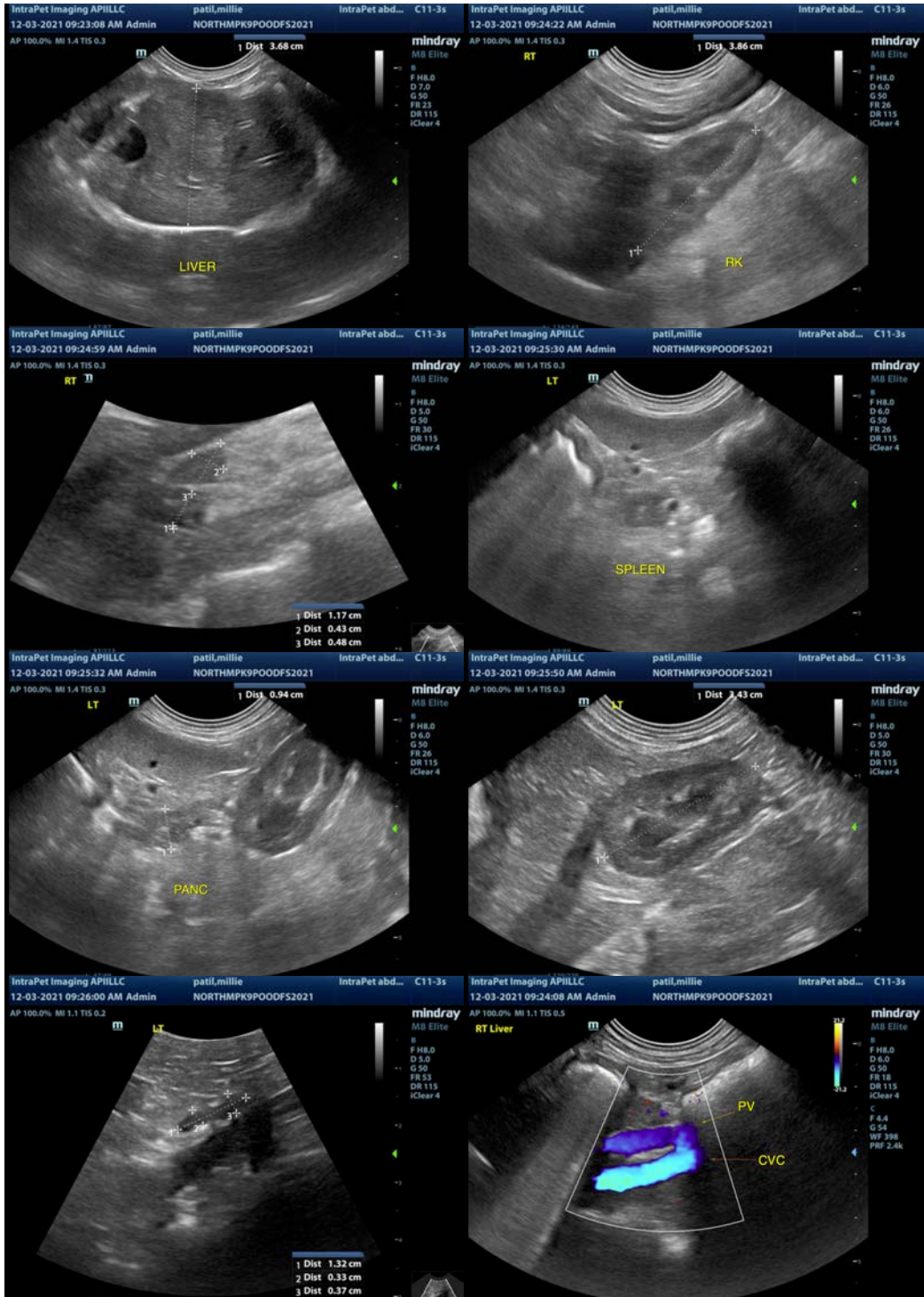
- No significant ultrasonographic lesions visualized

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver appears normal in size and vascularity, and the portal vein size appears appropriate, making the likelihood of an extravascular portosystemic shunt low. Nevertheless, there is an elevated liver post-prandial bile acids, so it is possible there is a small shunt that could not be seen on today's scan, microvascular dysplasia, etc. Options moving forward include:

- Ideal situation would be a contrast CT scan to confirm there is no shunt present, and biopsy of the liver to look for a possible cause of the elevated bile acids and ALT.
- If the spay has not been performed, you could consider referral to a veterinary surgeon for spay, biopsy of the liver, and gross evaluation of the hepatic vasculature for a possible shunting vessel.
- If the patient has already been spayed, recheck of bile acids. If they are persistently elevated, then consider a liver biopsy, ideally with a veterinary surgeon to evaluate for a shunt at the same time.

I suspect the most likely diagnosis is microvascular dysplasia, but this must be proven with a biopsy and lack of a demonstrated gross shunt. The bile acids is lower than you typically see with a normal portosystemic shunt, but this would ideally be confirmed in this young of a patient.





The information and recommendations provided are based on the images presented by the referring veterinarian. 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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