



PATIENT

Lilly Leong

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

FS

AGE

2 years

WEIGHT

2.1 kg

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP
(Canine and Feline)

IMAGING PERFORMED BY

Donna Markalnd,
DVM

HOSPITAL NAME

Island Mobile Paws
Veterinary Services

REFERRING VET

Central Cowichan
Animal Hospital

INVOICE

15427

DATE

11/9/22

PRESENTING CLINICAL SIGNS

Lilly has a recent history of balance issues and head tilt. The PE was unremarkable. Bloodwork showed a low ALP and a high bile acids (single test/not fasted). The primary veterinarian is looking for evidence of a hepatic shunt. Lilly has been on metronidazole and lactulose and is doing well. The clients had a previous dog with a suspected liver shunt which was managed medically. Lilly is reportedly related to that previous dog (same breeder/same lines). Lilly was given 0.2 mg/kg butorphanol IV for this scan.

Abnormal PE/Chem/CBC/UA Results: 10/25/22 Chemistry panel (attached full results) + bile acids:
ALP=19 (21-122) Bile acids=76.1 (0-15)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 1.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no sediment or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

The area of the aortic trifurcation was free of pathology.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 2.8 cm in length. The right kidney measured 2.8 cm in length.

Adrenal Glands

No overt pathology was noted in the area of the left adrenal gland. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 1.2 cm length x 0.24 cm width at the caudal pole.

Spleen

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

Liver/ Gallbladder

The liver exhibited normal to possible borderline subnormal size, subjective adequate hepatic vascular volume, and uniform normal hepatic parenchyma. Although indistinctly visualized, subjective normal portal vein branching was noted. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.



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Gastrointestinal

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The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material.

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The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction, or foreign material.

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Normal visible colon wall layers were present with apparent formed feces in lumen.

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The parenchyma of the left limb, body, and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease were evident.

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Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

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2.1 kg

ULTRASONOGRAPHIC FINDINGS

- Overtly normal to possible borderline subnormal liver size exhibiting subjective adequate hepatic vascular volume
- Sonographically normal bilateral kidneys / urinary bladder - no evidence of renal or cystic mineralization / calculi

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Although a definitive small portosystemic shunt cannot be definitively excluded, this potential is considered less likely given the subjective adequate hepatic vascular volume, subjective normal portal vein branching, as well as lack of secondary commonly seen factors such as renal or cystic mineralization. Potential for portal hypoplasia / microvascular dysplasia could be possible given elevated single bile acid measurement.

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A full bile acid panel including post-prandial bile acids is recommended for further assessment. If post-prandial bile acid elevation suggestive of a non-visualized macroscopic portosystemic shunt is noted, advanced imaging which may include Gold Standard CT with contrast could be considered.

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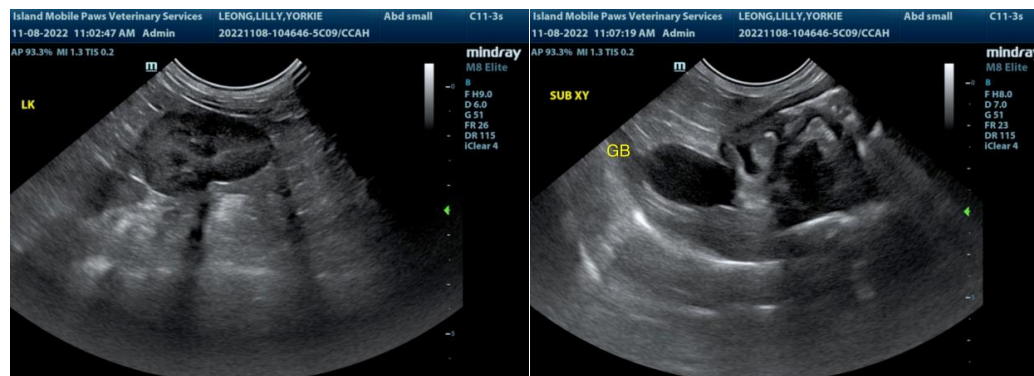
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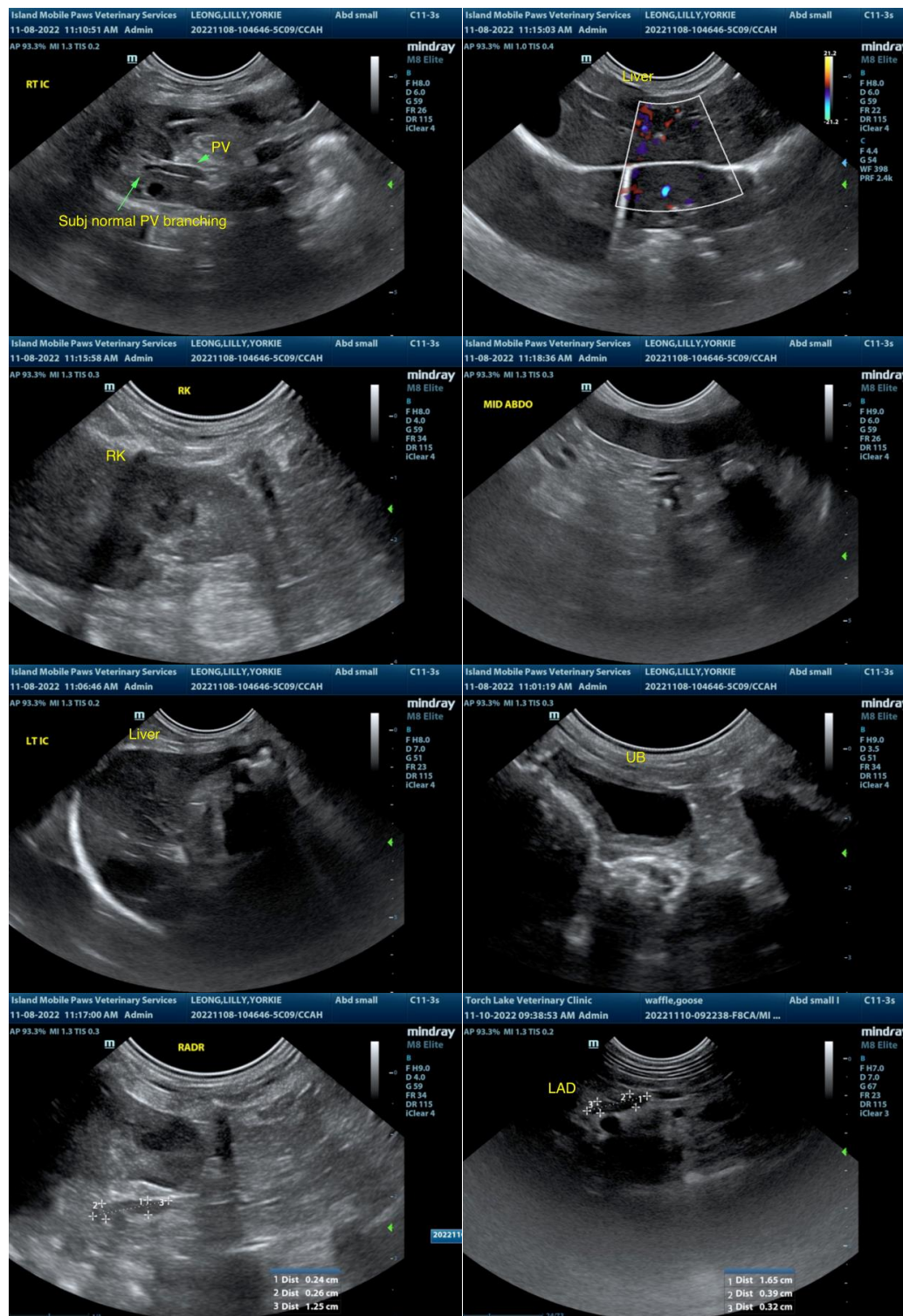
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.



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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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info@SonoPath.com

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