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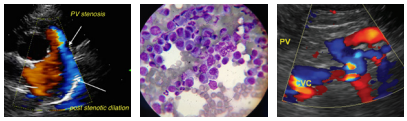

SonoPath
Clinical Sonography & Telecytology
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DATE

3/23/22

PATIENT

Lilly Yingling

SPECIES

Feline

BREED

DSH

SEX

Spayed Female

AGE

8/1/07

WEIGHT

7.14 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Airpark VH

REFERRING VET

Dr. Vanous

INVOICE

36406

PRESENTING CLINICAL SIGNS

Chronic weight loss and progressively increasing liver values. Weight loss noted Dec 2021 w/ mild liver values. First noted in December and it kept getting worse and until March of 2022 o had felt was attributed to her picky nature and the intermittent back order of her favorite food. When o was able to get it she would eat well and she would eat less when it was not available and o tried many varieties of food to entice her. Mild alt/alp inc in Dec 2021 as screening for possible mass removal from right hind. ~5x5x8mm irregular raised hairless, pink mass found Dec 2021. In house basic u/s performed and hyperechoic gall bladder wall found an no visible mass in the liver seen. Put on 1m of zeniquin and liver values were rechecked in Jan 2022. Liver values mildly improved and she was doing well and eating well per o at that time. March 15 o rpt that Lilly still was
not eating well. rec check her bld and her wt asap. 0.5# wt loss since Jan 5 2022. Bld showed further elevations of bld values and now bilirubinuria and bilirubinemia. fpl - 2.0. She is also now mildly hyperthyroid fT4 34.7pmol/L and fT4 in December was normal. Consulted w/ Dr Jill Pomrantz @ Idexx on 3/18 and Lilly has been started on mirtaz and cerenia. Denamarin has been avoided b/c pills are difficult to get in and the more o has to get in the worse it gets per o.
Dec wt 8.1# (had been 8.7# in April and March of 2021 but 8.1# 2/2020 so she is known to fluctuate). Jan 5 wt 7.75#, March 16 7.14#

Current Medications: 1/4 15mg mirtaz q3d, cerenia 1/4 24mg sid, both since 3/18/22, 1m course of 12.5mg zeniquin sid starting 12/18/21.
Lab Results: Mild ALT, ALP, AST, bilirubin elevations.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

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.

The left kidney has a normal shape and size (3.35 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.

The right kidney has a normal shape and size (3.55 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.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.40 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 0.37 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.

Spleen
The spleen is borderline large in size (1.1 cm) with mildly irregular, scalloped edges. Echogenicity is normal. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver
The liver is large in size with irregular margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There are numerous small, ill-defined, hypoechoic nodules throughout the parenchyma. Examples measured 0.79, 0.50, and 0.35 cm.

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 common bile duct appears dilated and tortuous with mildly thickened wall. Diameter measures at 0.34 cm.

Gastrointestinal
The stomach contains minimal luminal contents. It measures at a normal thickness of <0.36cm 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 uniform diameter with minimal fluid distension. Wall thickness is normal to slightly increased. Bowel loops follow a typical curvilinear path with distinct wall layering, but some areas display a prominent muscularis layer which does not display the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measured 0.28 cm. Jejunum wall measured 0.19 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 hypoechoic and mottled. Prominent pancreatic duct noted at 0.19 cm. 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.

PRIMARY FINDINGS

- Hypoechoic, mottled pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.

- Irregular heterogeneous liver with ill-defined hypoechoic nodules – Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis or other hepatopathy.

- Dilated, tortuous common bile duct – Dilation of the common bile duct could be consistent with a functional obstruction (i.e. primary hepatic disease resulting in hepatocellular swelling) or with an extrahepatic bile duct obstruction (ie. choledocholith, bile duct tumor, pancreatic disease, other).

- Prominent muscularis layer to the small intestine – The small intestinal wall changes are most consistent with an inflammatory process (i.e., inflammatory bowel disease) with a low possibility of emerging lymphoma.

SECONDARY FINDINGS

- Borderline large spleen with scalloped edges – Findings may be normal in this individual, but consider a fine needle aspirate of the spleen.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver is large and irregular with ill-defined hypoechoic nodules. Additionally, the bile duct is somewhat dilated and has a thickened wall. Findings could be consistent with cholangiohepatitis, infiltrative neoplasia, etc. Additionally, with the pancreatic changes noted, Triaditis would be a differential.

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc..

- Recommend thyroid evaluation (if not already done)

- If not already done, consider pre and post prandial bile acids to evaluate liver function (can skip if bilirubin is elevated)

- Consider fine needle aspirate if round cell neoplasia is on your differential list (25 g needle, normal coags)

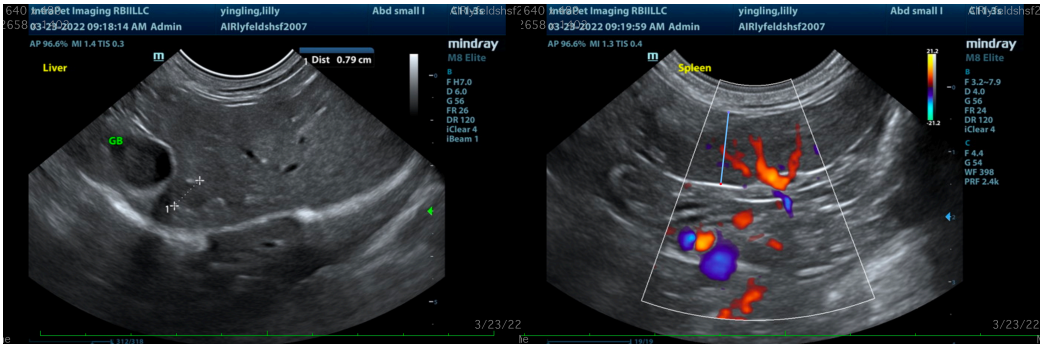
- If cytology is not helpful and there is no response to therapy, consider liver biopsy with samples obtained for histopathology and culture.

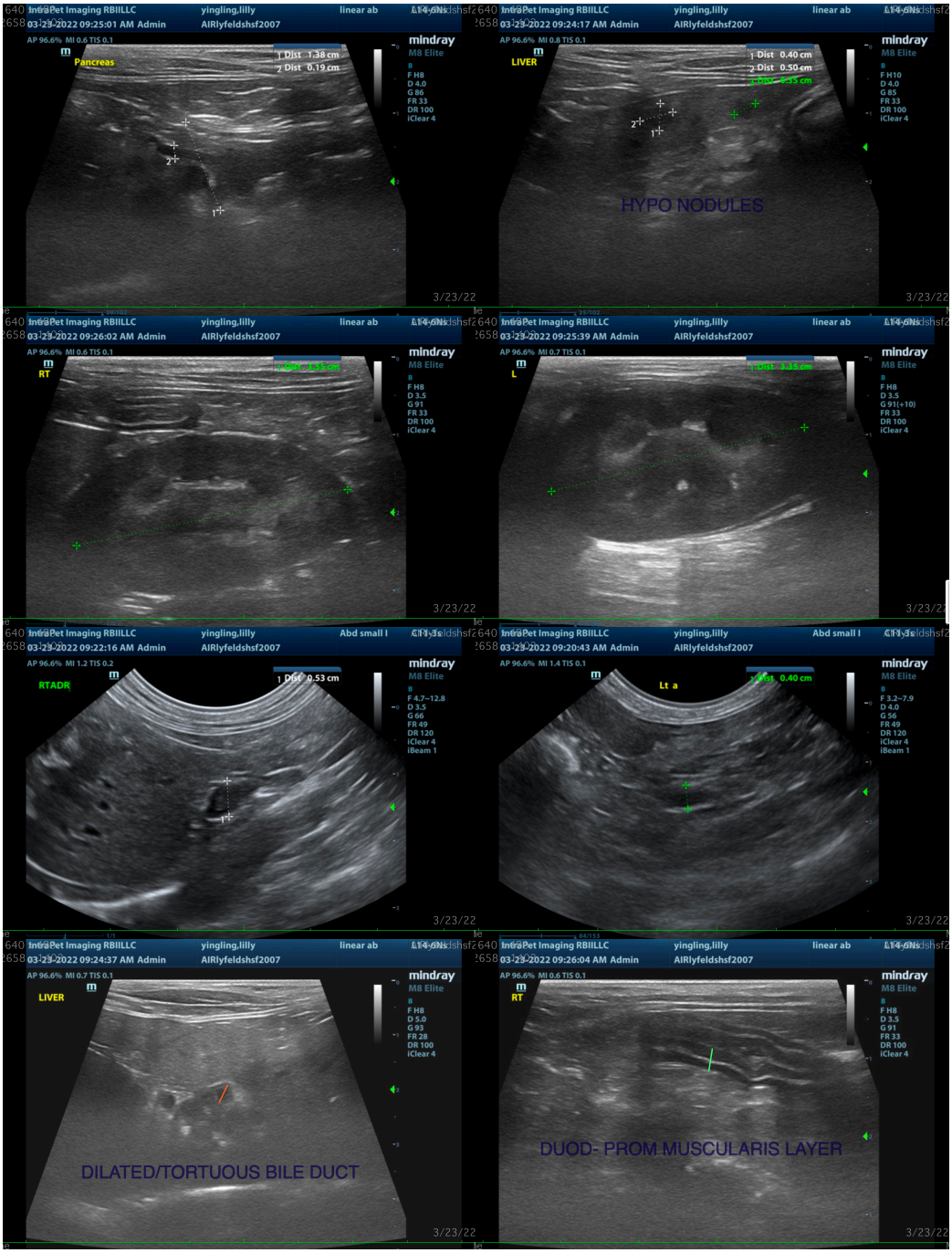
- Recheck gall bladder and bile duct in 48-72 hours to look for progressive distension.

- If triaditis is suspected consider therapy for cholangiohepatitis (fluids, antibiotics +/- steroids), testing for pancreatitis and evaluation for IBD (GI panel to Texas A&M GI lab)

- Consider a feeding tube if patient is not eating for a prolonged period of time

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.




Pancreas
Dist 1.38 cm
Dist 0.19 cm
LIVER
Dist 0.40 cm
Dist 0.50 cm
HYPO NODULES
RT
L
RTADR
Dist 0.53 cm
Lt a
Dist 0.40 cm
LIVER
DILATED/TORTUOUS BILE DUCT
RT
DUOD- PROM MUSCULARIS LAYER
mindray
M8 Elite
3/23/22

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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