



PATIENT

Millie Boardman

SPECIES

Canine

BREED

Miniature Pinscher

SEX

Spayed Female

AGE

14 Years 5 Months

WEIGHT

9.75 Lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Emma Herdener

HOSPITAL NAME

Eastgate VC

REFERRING VET

Emma Herdener

INVOICE

13047

DATE

12/13/21

PRESENTING CLINICAL SIGNS

History: Repeat ultrasound after progressive, increasing liver values in spite of denamarin/ursodiol. Pt has started to show some mild cranial abdomen discomfort/difficulty jumping. Pt had dental 12/7/21, did well under anesthesia (bloodwork done at time of dental at owner request)

Abnormal PE/Chem/CBC/UA Results: Previous Sonopath US on 10/21/21 (INVOICE 12431) Elevated liver values 12/7/21 AST (SGOT) 67 IU/L [Previously (10/19/21) 88IU/L (15-66)] ALT (SGPT) 437 IU/L [Previously (10/19/21) 173IU/L (12-118)] Alk Phos 1334 IU/L [Previously (10/19/21) 229IU/L (5-131)] GGT 124 IU/L [Previously (10/19/21) 18IU/L (1-12)] CHOLESTEROL 655mg/dL [Previously (10/19/21) 333mg/dL] Bilirubin all normal

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder was subnormal in size owing to lack of urine distention which prohibited full evaluation of urinary bladder walls. No overt evidence of neoplastic or inflammatory criteria. Minimal anechoic urine was present without evidence of sediment or calculi. The urethra was normal to a depth of 3 cm.

Aortic trifurcation was normal.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Small cortical cysts were present in both kidneys along with minor medullary dystrophic mineralization. The left kidney measured 4.1 cm in length. The right kidney measured 4.2 cm in length.

Adrenal Glands

No overt pathology in the area of the left or right adrenal gland.

Spleen

The spleen was normal in size and contour with generalized mild splenic parenchyma heterogeneity with pinpoint hyperechoic parenchyma foci which may indicate pinpoint areas of splenic parenchymal fibrosis, microinfarction or emerging mineralization. These findings are not considered pathologic and likely incidental.

Liver

The liver was normal in size and overall contour. Generalized progressive parenchymal remodeling exhibiting echogenicity was present. Potential for pinpoint areas minor biliary tree mineralization possible, although not definitive. No overt hepatic masses or nodules present.

The gallbladder was non-distended in size with primarily anechoic content and mild non-dependent yet nonorganized echogenic debris. The gallbladder walls were sonographically unremarkable without evidence of inflammatory criteria. No evidence of peripheral gallbladder inflammation. The cystic and common bile ducts were normal.

Gastrointestinal



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The stomach presented intact wall layering with a normal wall layer ratio. Minor retained anechoic fluid and luminal gas were present. The gastric body wall measured 0.32 cm.

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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. The duodenum wall measured 0.36 cm.

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

BREED

Pancreas

Miniature Pinscher

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 was evident.

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Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

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ULTRASONOGRAPHIC FINDINGS

Primary Findings

WEIGHT

9.75 Lbs.

- Chronic hepatopathy exhibiting progressive parenchymal remodeling and nonuniform echotexture
- Static mild gallbladder debris (non-mucocele), no overt cholecystitis
- Static mild age-related renal changes with small cortical cysts

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Secondary Findings

- Benign/age-related splenic changes

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The presentation of the liver exhibited progressive non-uniform parenchyma to parenchymal remodeling compared to the previous study. This is most consistent with progressive chronic hepatopathy with considerations including chronic hepatitis/cholangiohepatitis, vacuolar hepatopathy with generalize parenchymal remodeling, fibrosis/early cirrhosis or other hepatopathy. Hepatic neoplasia still considered a less likely differential diagnosis, although cannot be definitively excluded.

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Assuming normal clotting status, ultrasound guided FNA of the liver, using a 25-gauge needle, could be considered for screening cytology, primarily to assess for or possibly identify inflammatory cell type if present and rule out unlikely neoplasia. Continued hepatosupportive medications warranted while empirical broad spectrum antibiotic protocol ideal for cholangiohepatitis could be considered initially for 2-weeks. If positive hepatic response, continued antibiotics may be indicated for 4-6 weeks while discontinuation of antibiotics would be appropriate if no improvement in hepatic enzymes. Hepatic functionality likely normal assuming normal albumin, glucose and BUN levels. Hepatic core surgical biopsy would be required for a definitive diagnosis.

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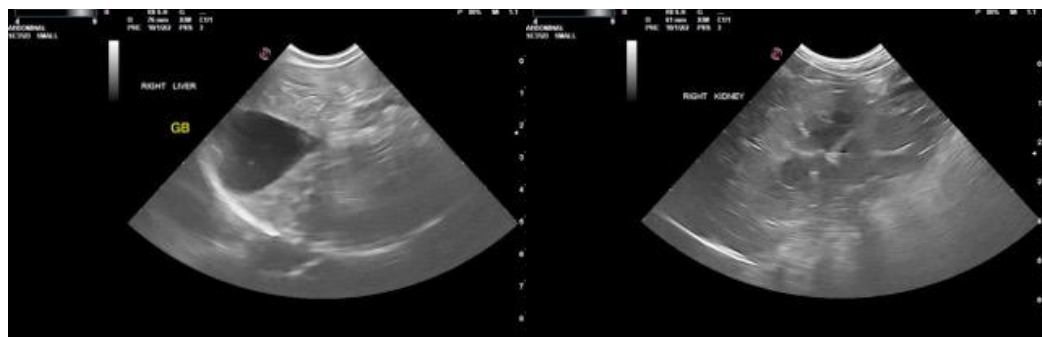
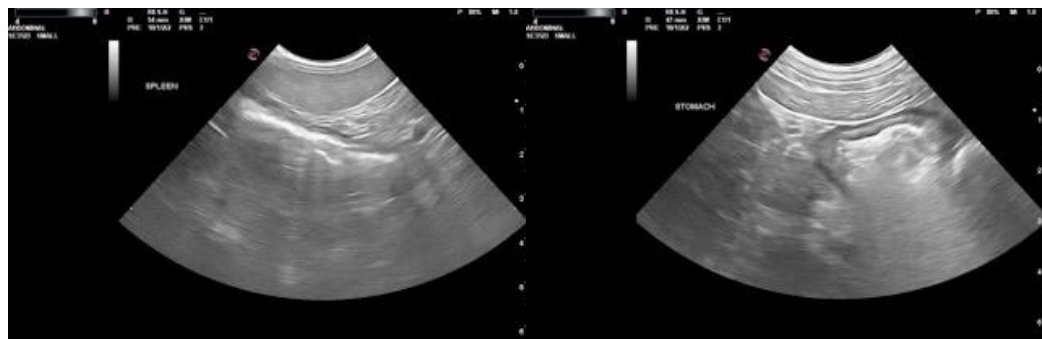
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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