



PATIENT

Cash Geddes

SPECIES

Canine

BREED

Golden Retriever

SEX

MN

AGE

11 years

WEIGHT

38.7 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Donna Markland,
DVM

HOSPITAL NAME

Island Mobile Paws
VS

REFERRING VET

Mahalo Veterinary
Hospital

INVOICE

16158

DATE

2/14/23

PRESENTING CLINICAL SIGNS

See last scan for Cash (11/4/22). Cash had an insulinoma removed in 2022. The last scan showed normal pancreas in spite of low blood glucose. Cash went to a local internist after that scan. The conclusion was that Cash likely has a metastatic lesion from the insulinoma that is not seen. Surgery was discouraged.

Cash is currently on apoquel, ursodiol, zentonil, gabapentin, and prednisone (0.25 mg/kg PO BID) Now Cash has a markedly larger liver with increased ALT, ALP, and GGT. FNA samples were taken of Cash's liver, including two from a hypoechoic/possible target lesion. Results are pending.

Abnormal PE/Chem/CBC/UA Results: 2/9/23: HCT=0.357 (0.373-0.617) Lymphocytes=0.73 (1.05-5.01) Eos=0.01 (0.06-1.23) ALT=258 (10-125) ALP=1959 (23-212) GGT=113 (0-11) Glucose=5.64 (3.84-7.95) Urea=14.0 (2.5-9.6)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

The residual prostate was free of pathology.

No evidence of medial Iliac or sublumbar lymphadenopathy/masses.

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. The left kidney measured 6.8 cm in length. The right kidney measured 6.8 cm in length.

Adrenal Glands

The bilateral adrenal glands were mildly subnormal in size (more prominent in the right adrenal gland), likely secondary to Prednisone therapy. No overt pathology was noted. The left adrenal gland measured 2.0 cm length x 0.48 cm width at the caudal pole. The right adrenal gland measured 2.3 cm length x 0.43 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.



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Liver/ Gallbladder

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The liver exhibited generalized enlargement, rounded primarily symmetrical hepatic capsule contour, and generalized nonuniform mildly nonhomogeneous parenchyma with intermittent to multiple, primarily discrete, non-disruptive, well-demarcated, hypoechoic intraparenchymal nodules. An example of a liver nodule measured 1.3 cm in diameter. The gallbladder was non-distended in size containing primarily anechoic content with moderate, dependent to nondependent, nonorganized, hyperechoic gallbladder debris. No evidence of gallbladder inflammatory criteria was noted. The cystic and common bile ducts were normal.

Gastrointestinal

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.

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.

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

Pancreas

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

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ULTRASONOGRAPHIC FINDINGS

- Enlarged generalized mild nonhomogeneous liver with multiple well-demarcated nondisruptive hypoechoic intraparenchymal nodules
- Moderate gallbladder debris - not consistent with neoplastic criteria
- Mild age-related kidneys
- Heterogeneous pancreas

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Possible considerations for the hepatomegaly and hepatic parenchyma changes may include vacuolar hepatopathy, inflammatory / immune-mediated disease, nonobstructive cholestasis, hyperplasia, hematopoiesis, early to mild fibrosis, primary or metastatic neoplasia, given the history of insulinoma. Concern for potential metastatic hepatic lesions from the previous insulinoma may be of primary concern, in light of the patient history. Correlation with pending FNA cytology is recommended.

Empirically, hepatosupportive medications including current Ursodiol, as well as Denamarin or similar may prove beneficial. Continued monitoring of BG levels, as well as ideally sonographic monitoring of



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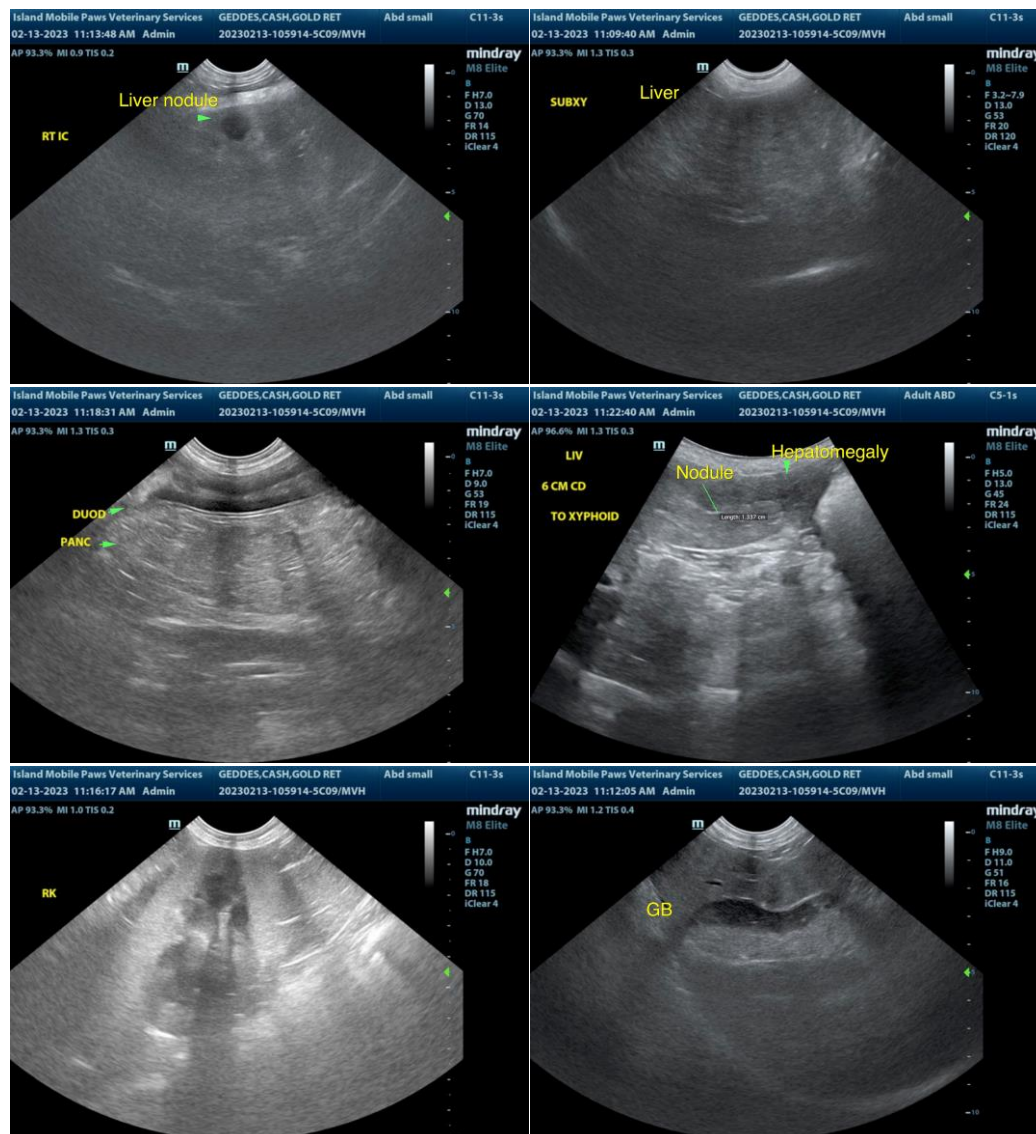
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the liver pending cytology for evidence of progressive hepatic parenchymal or nodule changes are suggested.





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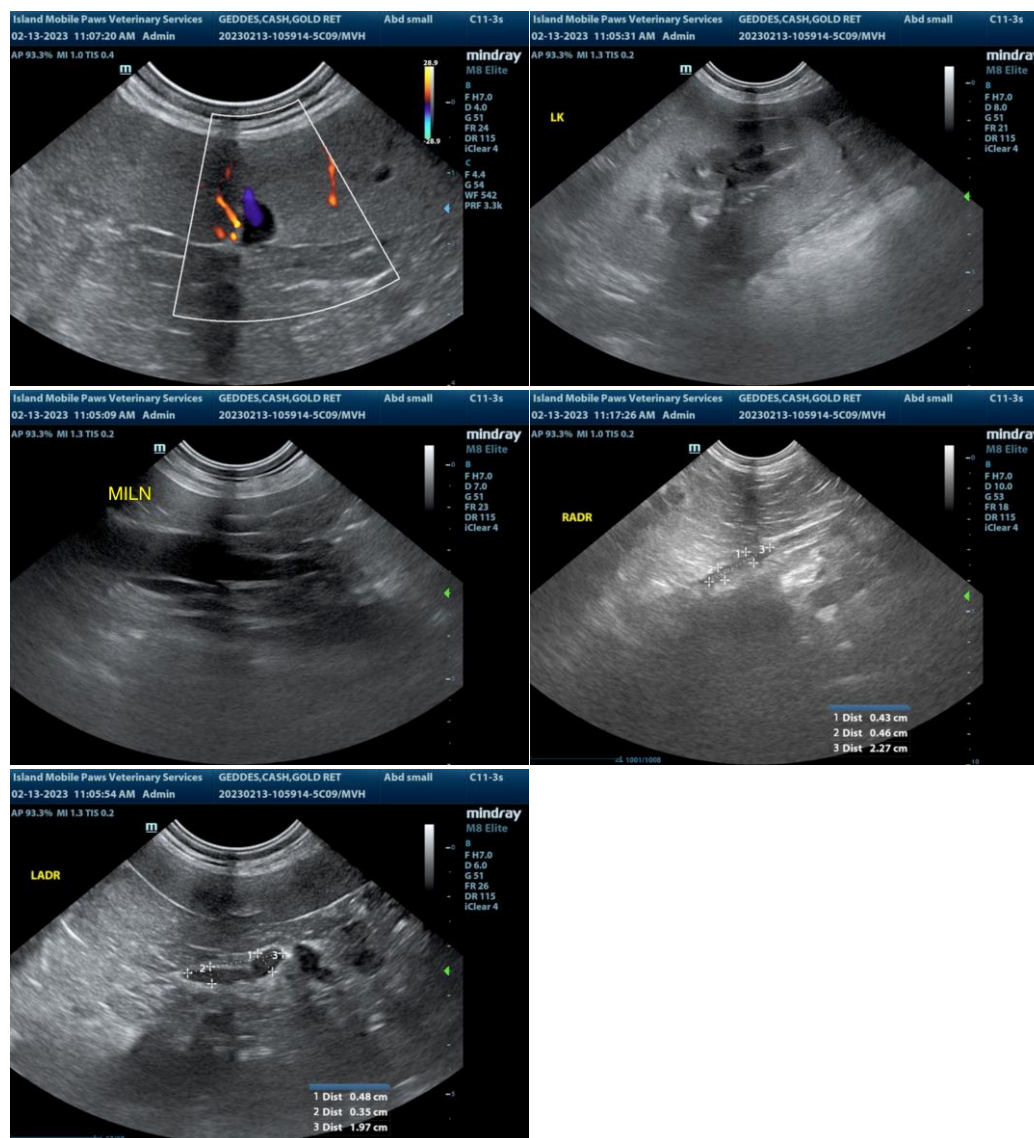
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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