



## PATIENT

Jewel Abraham

## SPECIES

Canine

## BREED

Lab

## SEX

Spayed Female

## AGE

13 Years

## WEIGHT

40 kg

## INTERPRETED BY

R. McKenzie Daniel,  
DVM, DABVP (Canine  
/ Feline Practice)

## IMAGING PERFORMED BY

Patti Mayfield DVM

## HOSPITAL NAME

Highland Veterinary  
Hospital

## REFERRING VET

Dr. Rachel Poet DVM

## INVOICE

14643

## DATE

03/26/26

## PRESENTING CLINICAL SIGNS

- P was seen last week for an update exam and senior bw with clinical signs of hyporexia, difficulty rising, sleeping more yet restlessness and possible dementia symptoms – wandering aimlessly
- P has a history of bilateral TPLO's and lick granuloma and lipoma removal at VRCCO.
- Last small screening chem panel at VRCCO in 8/2024 for acute
- diarrhea demonstrated normal liver enzymes.
- O has had two other previous dogs pass away from liver disease, and
- housemate is under care for recent neuro symptoms and pulmonary
- neoplasia at VRCCO.

Abnormal PE/Chem/CBC/UA Results: P is overweight, stiff in hinds, anxious and restless, otherwise normal TPR, abdominal palpation and auscultation. BW abnormalities: - Hyperkalemia = 5.7 mmol/L (4-5.4) - Increased ALT = 566 U/L (18-21) - Increased AST = 88 U/L (16-55) - Increased ALP = 451 U/L (5-160) - Urine sl hyposthenuric – USG = 1.020, rest of UA wnl

## 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 change were noted.

Normal size and margination was 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 6.5 cm in length. The right kidney measured 6.5 cm in length.

### Adrenal Glands

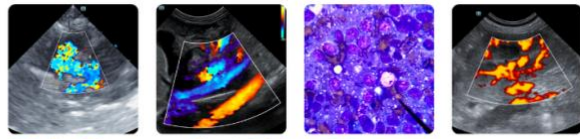
The bilateral adrenal glands were normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 0.80 cm width in the caudal pole. The right adrenal gland measured 0.72 cm width in the caudal pole.

### 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 presented mildly enlarged with asymmetrical hepatic contour and generalized moderate to variable nonhomogenous to mixed echogenic hepatic parenchyma exhibiting variable to moderate coarse echotexture and indistinct portal vascular borders. Discrete ill-defined parenchymal nodular



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changes including a solitary mildly expansive mild nonhomogenous hypoechoic ventral intraparenchymal macronodule to small mass measuring 3.7 cm in diameter.

The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. 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 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.

### **Free Abdomen**

No overt lymphadenopathy or peritoneal effusion was present.

## ULTRASONOGRAPHIC FINDINGS

- Enlarged mixed echogenic liver with ventral intraparenchymal macronodule/small mass lesion.
- Normal gallbladder.
- Bilateral chronic renal changes.
- Normal adrenal glands.
- Normal spleen.
- Sonographically unremarkable gastrointestinal tract.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Consideration for the hepatopathy may include chronic active hepatitis, cholangiohepatitis or other inflammatory disease, fibrosis/cirrhosis, nodular hyperplasia, vacuolar changes, emerging hepatoma, malignant neoplasia or combination.

Further assessment may include (assuming normal clotting status) hepatic parenchyma and macronodule/small mass lesion FNA cytology. Gold standard biopsies with histopathology +/- copper assessment may be required for a definitive diagnosis. No evidence of adrenal pathology as a contributing factor with otherwise mild geriatric abdomen. Hepatosupportive medications and clinical/sonographic monitoring would be a more conservative approach.



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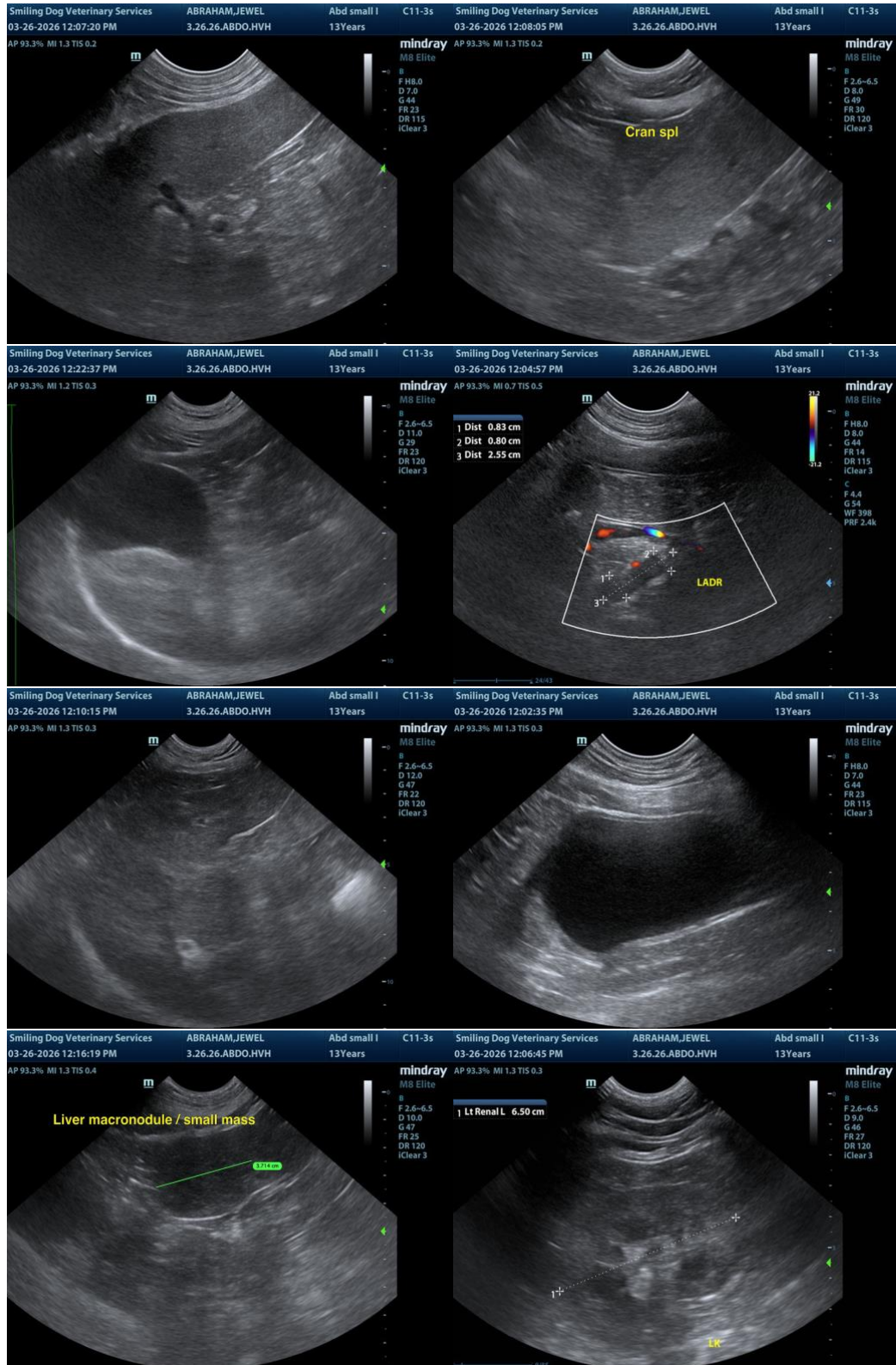
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

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