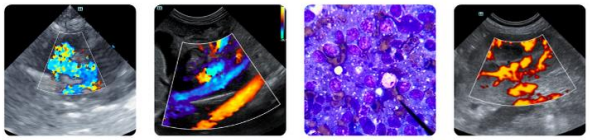


PATIENT

Darby Dunn

SPECIES

Canine

BREED

Scottish Terrier

SEX

MN

AGE

12 years, 4 months, and 1 week

WEIGHT

10.4 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Jill Rankin

HOSPITAL NAME

VCA Canada Coach Hill AH

REFERRING VET

Dr. Jessica Barker

INVOICE

10716

DATE

3/24/26

PRESENTING CLINICAL SIGNS

History:

- Presenting for evaluation of suspected hyperparathyroidism, characterized by hypercalcemia and elevated parathyroid hormone, in the context of a chronic and progressive history of elevated liver enzymes.
- Recent lab work revealed hypercalcemia, with an ionized calcium of 1.58 (reference high 1.45) and total calcium of 3.03 (reference high 2.85), along with an elevated parathyroid hormone (PTH) level. An internal medicine specialist at Antech noted this presentation is very consistent with hyperparathyroidism. The owner reports clinical signs of PU and PD (PU/PD) and the patient being "off sometimes," which were previously thought to be age-related changes.
- An AUS at another ER June 2024 noted a liver with normal to slightly increased depth and mild to moderately heterogeneous texture, with findings suggestive of regenerative or nodular hyperplasia and a suspected underlying hepatopathy. It was also noted that Scottish Terriers can have constitutionally higher serum ALP activity.

Abnormal PE/Chem/CBC/UA Results: The patient has history of elevated liver enzymes. Most recent bloodwork showed ALT of 483 (reference high 118), AST of 71 (reference high 66), and a markedly elevated ALP of 5,985 (reference high 131). Other findings on lab work include elevated total protein (85), albumin (49), BUN (13.7), and cholesterol (12.14). The complete blood count showed a neutropenia (52) and elevated lymphocytes (43). A urinalysis revealed a pH of 7.5, 4+ proteinuria, and an elevated urine protein-to-creatinine (UPC) ratio of 1.1.

ULTRASONOGRAPHIC EXAMINATION OF THE THYROID & ABDOMEN

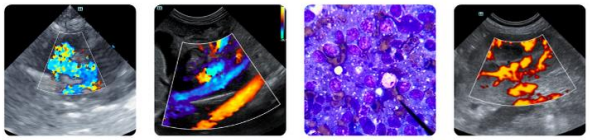
Thyroid

The left and right thyroid lobes appeared overtly normal in size, position, and shape, with the right thyroid lobe measuring ~0.26 cm in width and the left thyroid lobe measuring ~0.29 cm in width. Visualized right parathyroid gland was noted to be overtly normal in size, measuring 0.11 cm in diameter. Visualized left parathyroid gland was noted to be overtly normal in size, measuring 0.18 cm in diameter.

The trachea, esophagus, visualized lymph nodes, and salivary glands were sonographically normal.

Urinary System

The urinary bladder was normal in size and tone. Regional mild thickened mid-dorsal urinary bladder wall exhibiting mild nonhomogeneous nonmineralized wall echogenicity was present, measuring ~1.5 cm x 0.92 cm. No evidence of mineral or calculi. The urethra exhibited normal structure and tone to a depth of 3.0 cm.



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The residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture measuring 1.7 cm in diameter.

No evidence of pathology in the area of the aortic trifurcation.

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. Intermittent small cortical cysts were present. The left kidney measured 5.8 cm in length. The right kidney measured 5.8 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.53 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.53 cm width at the caudal pole.

Spleen

The spleen was subjectively mildly enlarged with symmetrical contour and mild nonhomogeneous parenchyma. Normal splenic vascularity was noted. No splenic masses or nodules were present.

Liver/ Gallbladder

The liver was subjectively mildly enlarged in size with normal structure and contour. Normal hepatic vascular volume was present. The liver parenchyma was mild / moderate nonuniform and hypoechoic to the spleen with a mild/ moderate coarse echotexture and subjective mild parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size containing primarily anechoic content with moderate, congealed, primarily gravity-dependent, nonorganized gallbladder debris. 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 without evidence of retained ingesta, fluid, 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 were evident.

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Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

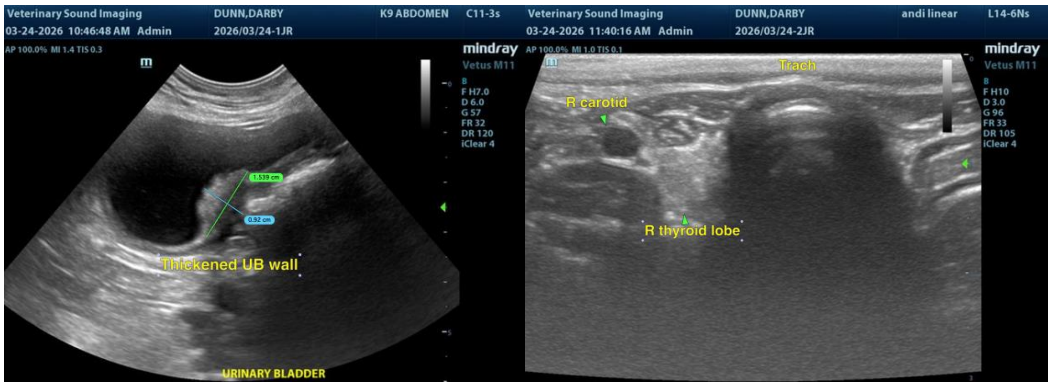
ULTRASONOGRAPHIC FINDINGS

- Mild hepatosplenomegaly exhibiting mild nonhomogeneous parenchyma
- Nonorganized gallbladder debris (non mucocele)
- Age-related renal changes with small cortical cysts
- Normal bilateral adrenal glands
- Mildly thickened dorsal urinary bladder wall – regional cystitis, potential for emerging tumor
- Overtly normal left / right thyroid lobes and visualized parathyroid glands

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Assuming normal clotting status and using a 25-gauge needle, hepatosplenic FNA cytology in the face of hypercalcemia is recommended. There is no evidence of adrenal pathology as a contributing factor to the hepatopathy.

A definitive parathyroid tumor was not obviously visualized, yet given hypercalcemia in the face of elevated parathyroid hormone cannot be definitively excluded. Ideally, and pending hepatosplenic cytology, cervical CT for further clarification is recommended if possible. Hepatosupportive medications may prove beneficial. Monitoring of UPC level is recommended. Screening BRAF assay is recommended.



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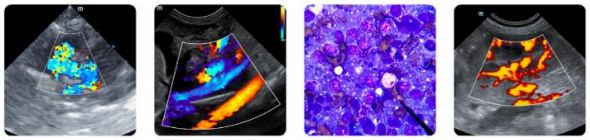

Clinical Sonography & Telecytology
Educational Teleconsultation Services™

SonoPath.com info@sonopath.com 1.800.838.4268

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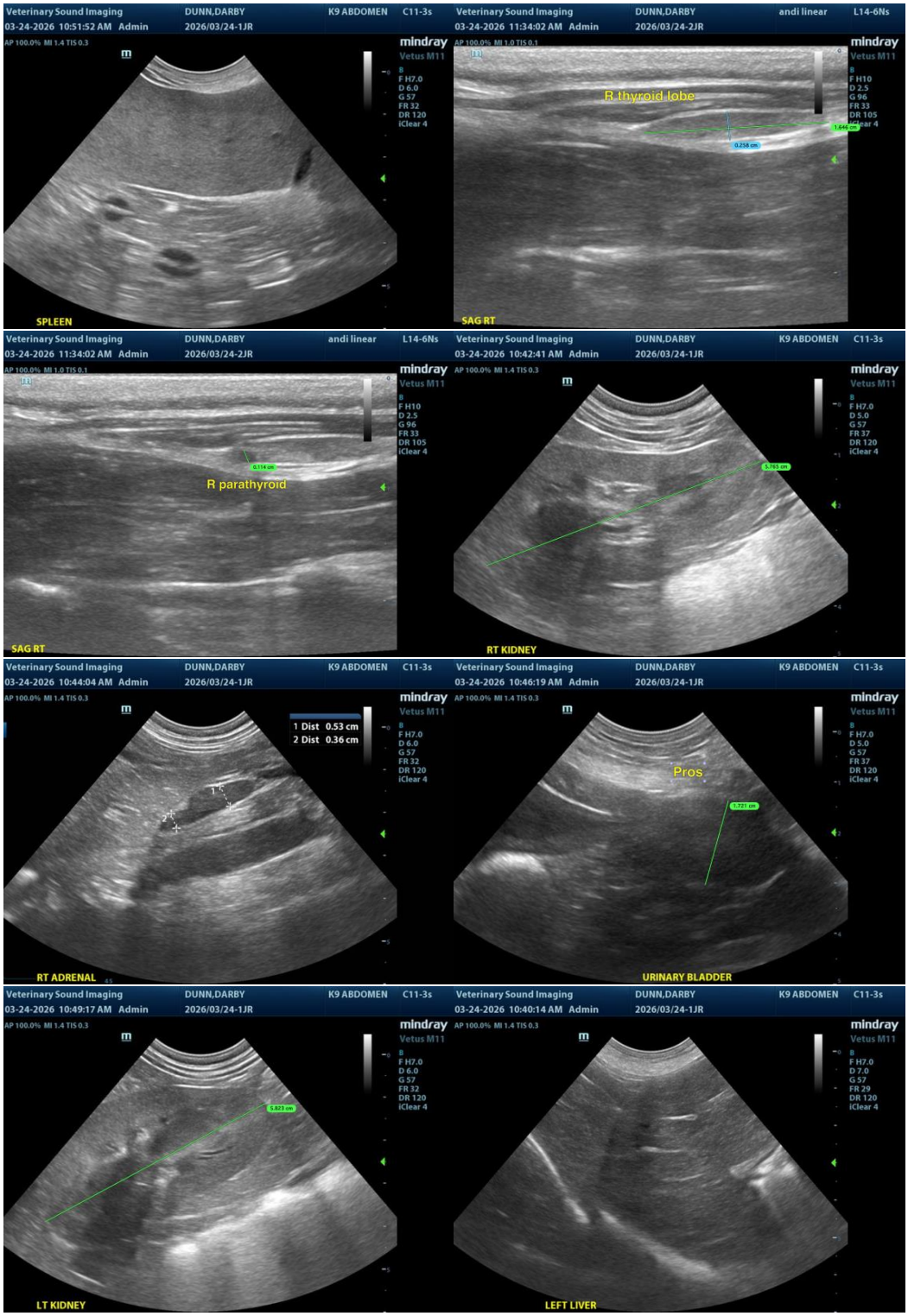

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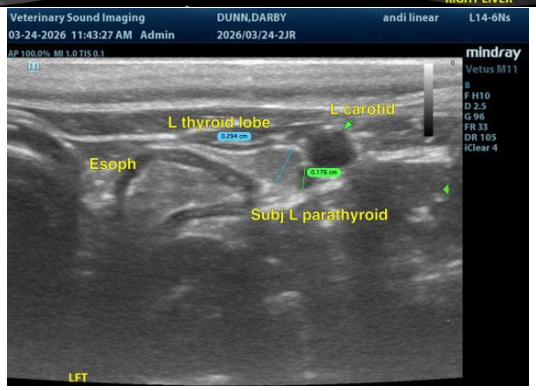

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
info@sonopath.com