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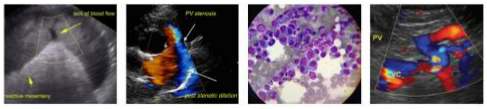
Pet Animal Ultrasound Service



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PATIENT

Joy Ferreira

SPECIES

Canine

BREED

Labrador Retriever

SEX

FS

AGE

6 years

WEIGHT

67.4 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Pamela Harrigan, RDCS

HOSPITAL NAME

Anchor AH

REFERRING VET

Katherine Pietsch, DVM

INVOICE

14927

DATE

4/28/22

PRESENTING CLINICAL SIGNS

Diabetes diagnosed in January, 2022 and was started on Vetsulin. She also had a UTI which did not resolve with antibiotics. Urine culture = Klebsiella sp. - >100,000 CFU per ml Cefpodoxime S < 0.25. UTI cleared after extended course of Cefpodoxime. Still unregulated diabetic (BG 500-600) and currently is getting Vetsulin 15 units SQ BID. Also losing weight rapidly (initially 85 lb, now 67 lb). BW WNL except for hyperglycemia. AUS to look for potential causes of difficulty regulating her diabetes including adrenal disease, pancreatitis, neoplasia. *Sedated with trazadone/butorphanol

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 sediment or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

The area of the aortic trifurcation was free of pathology.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex. Mild pyelectasia was present in both kidneys. The left kidney measured 7.9 cm in length. The right kidney measured 7.3 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 0.57 cm width at the caudal pole and 0.55 cm width at the cranial pole.

The right adrenal gland exhibited normal mid and caudal adrenal size and contour with uniform parenchyma. Suspect subtly expansive mildly nonhomogeneous yet nonmineralized cranial right adrenal nodule, measuring 0.98 cm in diameter. The overall right adrenal gland measured 0.98 cm width at the cranial pole and 0.50 cm width at the caudal pole. The suspected right adrenal nodule did not significantly distort the adrenal capsule and without evidence of phrenic vein invasion.

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 exhibited mild enlargement with subtle generalized nonuniform to mildly mixed echogenic parenchyma. Intermittent, nondisruptive subtle hypoechoic intraparenchymal nodules were present, an example measured 1.0 cm in diameter. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic content with mild to moderate congealed yet nonorganized nonmineralized luminal debris. The cystic and common bile ducts were normal.

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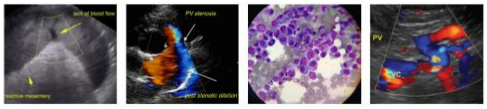

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Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained moderate variably hyperechoic ingesta, exhibiting subtle distal acoustic shadowing without signs of obstruction or foreign material. The ventral gastric body wall measured 0.30 cm.

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 0.50 cm. The jejunum wall measured 0.39 cm.

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.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Mild hepatomegaly, exhibiting minor mixed echogenic to focally nodular parenchyma- subjectively benign
- Mild to moderate congealed gallbladder debris (non-mucocele)
- Mild bilateral renal pyelectasia
- Subjective nonspecific cranial right adrenal nodule- suspect adenoma

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Mild/metabolic/reactive/vacuolar (diabetic) hepatopathy pattern with suspect subtle areas of hyperplasia or hematopoiesis. Given the lack or reported hepatic enzyme elevations, inflammatory hepatopathy (i.e., cholangiohepatitis) is considered a less likely differential diagnosis. Hepatosupportive medications, including Denamarin and ursodiol may be considered if hepatic enzyme elevations or cholestasis are noted. Screening blood pressure recommended. Adrenal hyperfunctionality is though unlikely given the lack of reported clinical signs suggestive of hyperadrenocorticism. Adrenal testing with ACTH stimulation test, in light of diabetes, could be considered, if clinically indicated. Sonographic reassessment of the suspected right adrenal nodule in 6-8 weeks recommended for further assessment.

Potential Causes of Diabetic Dysregulation

This is a suggestive checkoff list when faced with an unregulated diabetic patient:

UTI

Dietary indiscretion/intolerance

Pancreatitis

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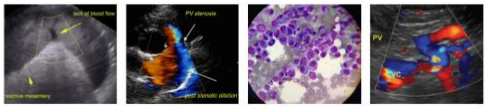

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Hyperthyroidism/hypothyroidism

Exogenous steroids (including topical eye meds)

Cushing's

Acromegaly

Owner compliance

Insulin quality issues

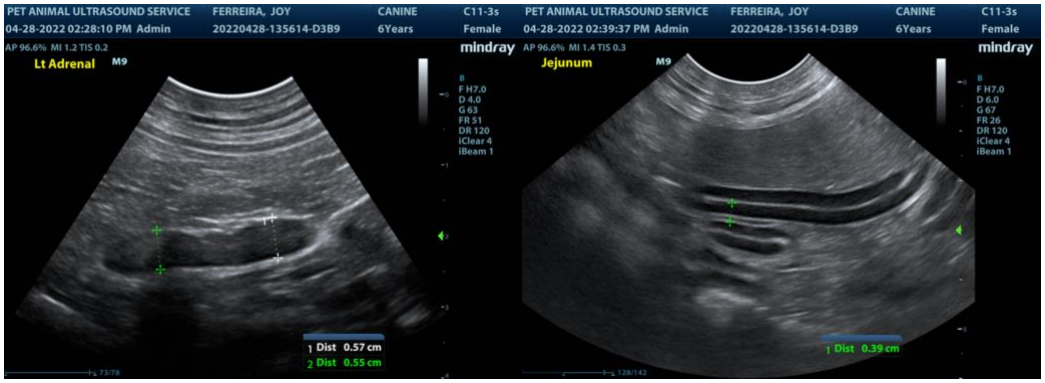
Antibodies to insulin

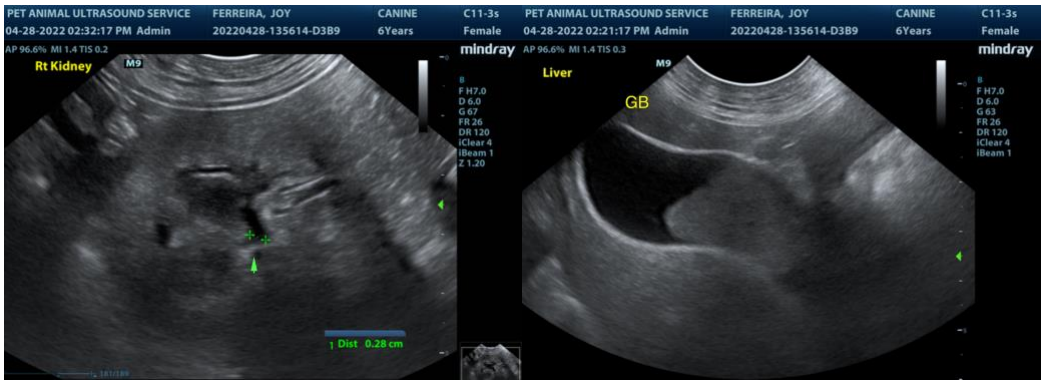
Underlying Neoplasia

Diffuse liver disease

For an additional charge, internal medicine consult can be utilized through Sonopath.com. You can select the internal medicine drop down at http://spa.sonopath.com/.

One of the world's top internists & SonoPath associate Dr. Remo Lobetti BVSc, MMedVet, PhD, DECVIM can evaluate your case through SonoPath. https://sonopath.com/resources/sonopath-services/internal-medicine-teleconsultation-services





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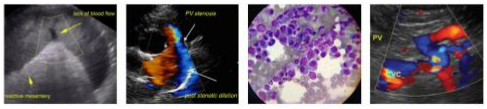

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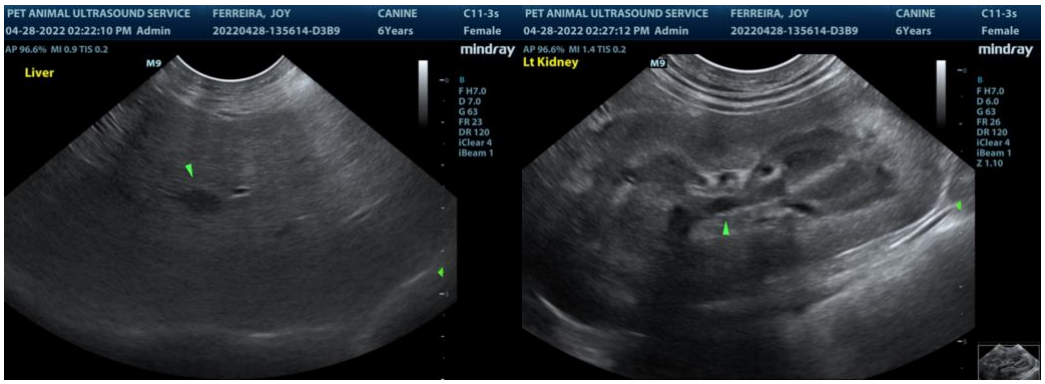

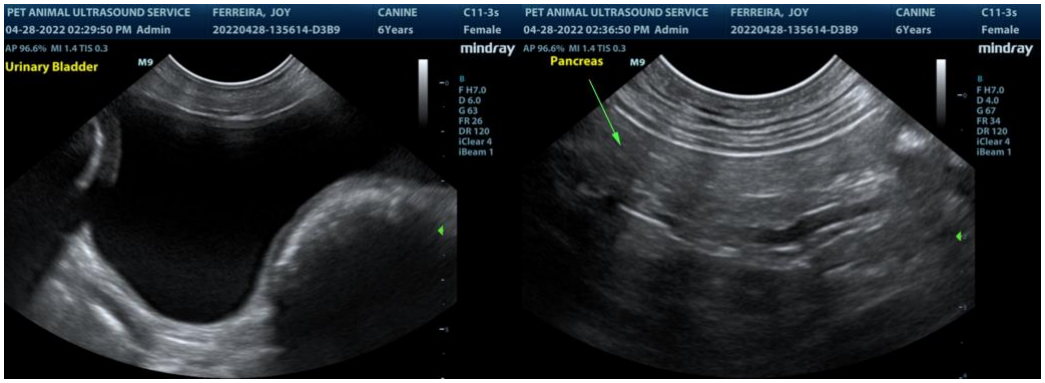

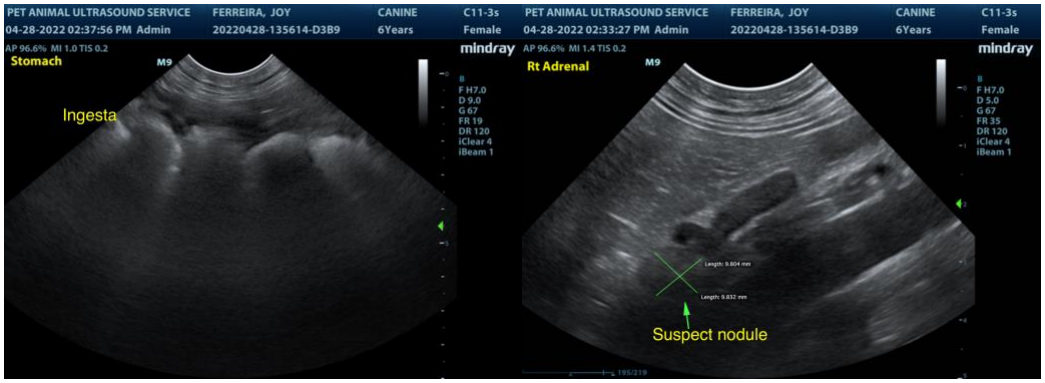

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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