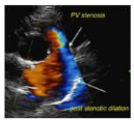
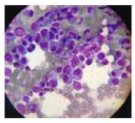
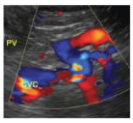

PATIENT

Buster Kroeger

SPECIES

Canine

BREED

German Shepherd

SEX

NM

AGE

9 years

WEIGHT

94 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Sarah Pender, CVT

HOSPITAL NAME

SVS Imaging QC

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INVOICE

13801

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5/4/22

PRESENTING CLINICAL SIGNS

Prolonged diarrhea Weight loss
Abnormal PE/Chem/CBC/UA Results: Hyperthyroid- TT4 12.5; Free T4 >10ng/dl and 128.7 pmol/L; Cobalamin B12- <150 ng/L; Chol 90; TP 5.0; Albumin 2.5; Chl 120; Phos 6.6; Creat 0.4; BUN 8; Mono 1.27; MCHC 31.8 Semi soft mass cervical region about 3 inches caudal to larynx, 2 inches cranial to thoracic inlet on left side.

ULTRASONOGRAPHIC EXAMINATION OF THE NECK & ABDOMEN

Neck

Sonographic assessment of the neck in the area of the left and right thyroid lobes revealed nonhomogeneous to vascular mass in the area of the left thyroid lobe, measuring approximately 4.0 cm length x 1.9 cm width. The subjective right thyroid lobe exhibited normal size, contour, and echogenicity subjectively measuring 4.5 cm length x 0.59 cm width. A probable small normal-appearing right parathyroid gland was visualized. Potential nonspecific nonhomogeneous to mildly hypoechoic small lesions within the area of the right thyroid lobe were potentially visualized, although not definitive. Suspect focal mild retropharyngeal lymphadenopathy was noted in the area of the mass potentially associated with the left thyroid lobe. The lymph node measured 0.8 cm in diameter.

Urinary System

The urinary bladder, trigone, and cystourethral junction 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.

No overt pathology was noted in the area of the residual prostate.

The area of the aortic trifurcation was free of pathology.

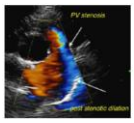
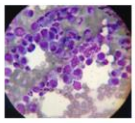
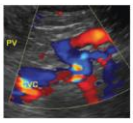
Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 7.4 cm in length. The right kidney measured 7.75 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 0.65 cm width at the caudal pole and 0.51 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.52 cm width at the caudal pole and 1.1 cm width at the cranial pole.

Spleen

The spleen was normal in size and contour with subtle generalized splenic parenchyma heterogeneity. Normal splenic vascularity was present. No masses or nodules were noted.

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Liver/ Gallbladder

The liver exhibited potential for mild generalized enlargement. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with primarily anechoic luminal content. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented mild prominent wall thickening secondary to mildly echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Moderate retained anechoic fluid was present without evidence of retained ingesta, foreign material, or overt mechanical pyloric outflow obstruction.

The small intestine presented intact wall layering and maintained a 1:3 muscularis/mucosa ratio with segmental mild nonobstructive duodenojejunal ileus exhibited by mild luminal anechoic to echogenic fluid and nonshadowing chyme. Concurrent segments of empty small intestine without evidence of Ileus were also present to the level of the colon.

Normal visible colon wall layers were present with semi-formed to soft feces, consistent with reported diarrhea.

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.

Thorax

Brief transdiaphragmatic view of the caudal thorax revealed nonhomogeneous to mixed echogenic mass lesion in the area of the caudal right thorax cranial and potentially effacing the area of the right diaphragm, measuring approximately 8.0-9.0 cm in diameter. No evidence of concurrent pleural effusion was evident.

ULTRASONOGRAPHIC FINDINGS

- Hypomotile stomach
- Intact small bowel wall layering with segmental nonobstructive duodenojejunal ileus
- Nonhomogeneous to vascular mass in the area of the left thyroid lobe with suspect focal regional mild retropharyngeal lymphadenopathy
- Nonhomogeneous to mixed echogenic right caudal thoracic mass

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

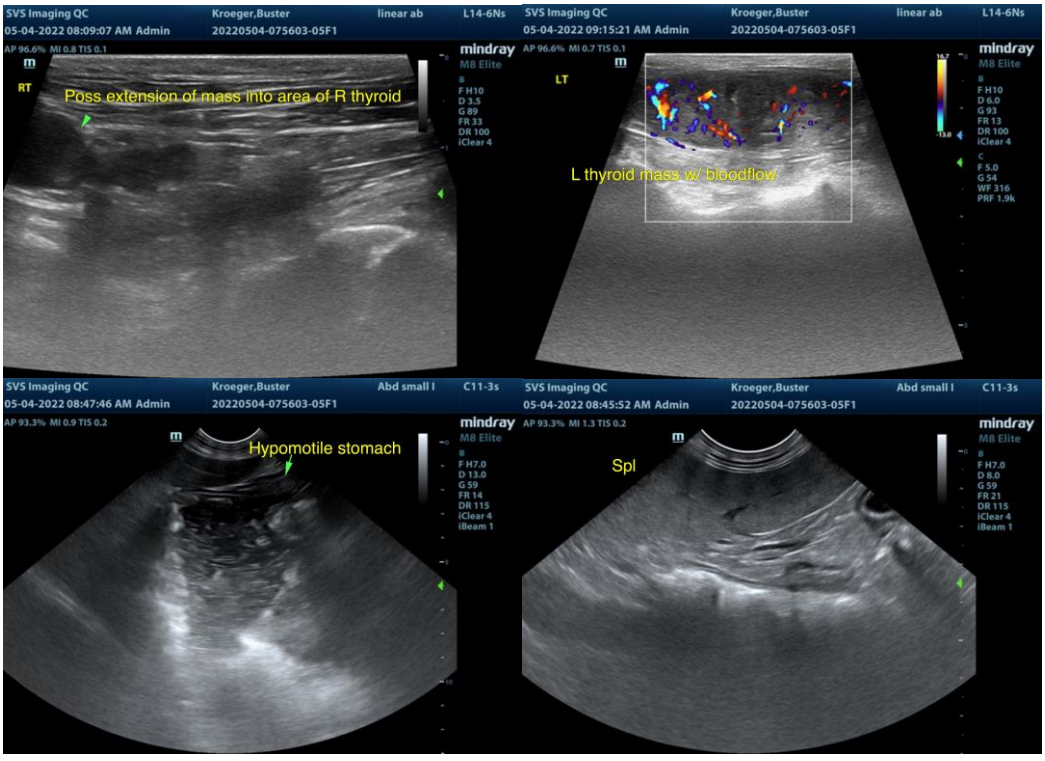
Given the elevated T4 and Free T4 levels in this patient in conjunction with the mass in the area of the left thyroid lobe, primary thyroid neoplasia, i.e., carcinoma / adenocarcinoma is strongly suspected. The possibility of early retropharyngeal lymphatic metastasis vs. lymphatic hyperplasia or lymphadenitis, as well as the possibility of potential extension of the mass into the area of the right thyroid lobe cannot be definitively excluded.

A TSH level could be considered to correlate with the elevated T4 and Free T4 levels. FNA of the mass could be considered for cytology but hemodilution or bleeding could be an issue with its vascularity. Cervical and thoracic CT is likely ideal if possible.

Aside from gastric hypomotility, evidence of significant structural and gastrointestinal pathology was not evident. However, the decreased cobalamin levels in this patient are consistent with at least distal small intestinal disease. IBD, dysbiosis / antibiotic responsive diarrhea, and less likely early intestinal neoplasia could be possible.

The intestinal presentation was not overtly suggestive of protein-losing enteropathy, although this possibility may be considered if progressive hypoalbuminemia is noted. Further assessment may include a GI panel to include PLI/TLI/Cobalamin/Folate.

Empirical therapy for the GI tract may include; cobalamin supplementation, a limited antigen to hydrolyzed diet, high colony count probiotic such as Proviable, and antibiotic trial such as Metronidazole or Tylosin with as-needed gastrointestinal support.



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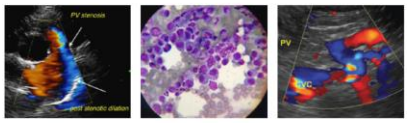

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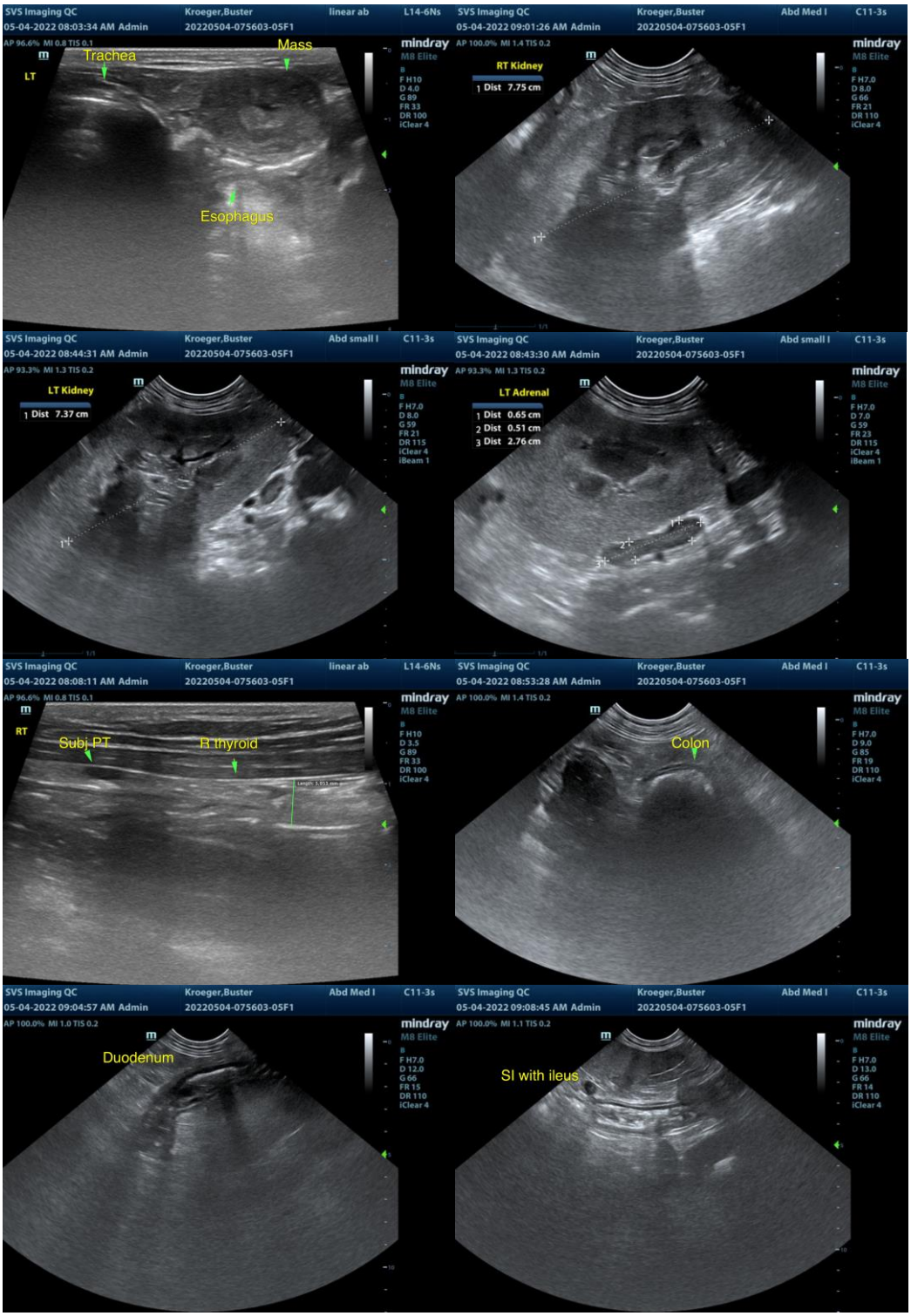

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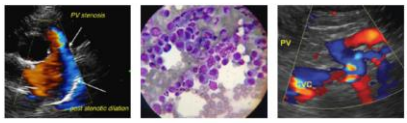

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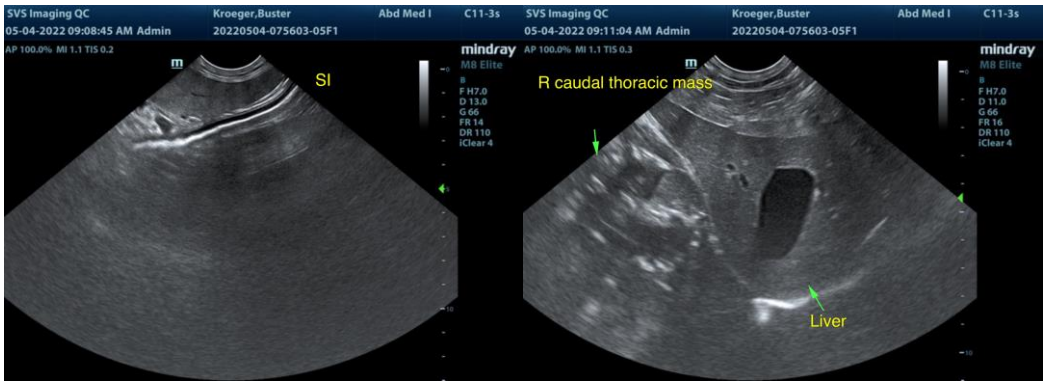

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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