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Clinical Sonography & Telecytology
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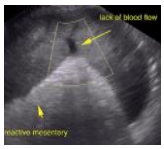
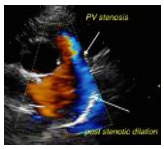
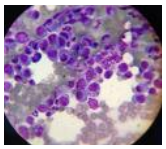
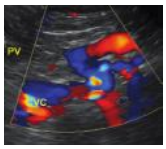





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Popcorn Hummel

SPECIES

Canine

BREED

Labrador Retriever

SEX

FS

AGE

14 yr

WEIGHT

NA

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi CVT

HOSPITAL NAME

Andover Animal Hospital

REFERRING VET

Dr. Hummel

INVOICE

10904ag

DATE

06/22/2022

PRESENTING CLINICAL SIGNS

History: Weakness, decreased appetite, anemic. PCV 29%, HG 9.1 (12 L); RBC 4.4 (4.8 L); Lymphocytic leukemia (chronic)Current meds: Proin 50mg bid, Galiprant 50mg sid

Abnormal PE/Chem/CBC/UA Results: PCV 29%, HG 9.1 (12 L); RBC 4.4 (4.8 L); Lymphocytic leukemia (chronic); ALT 137 (118 H); SAP 773 (131 H); BUN 46 (31 H); CR 2.1 (1.6 H); Prec. PSL 297 (140 H) UA-Pending

ULTRASONOGRAPHIC EXAMINATION OF THE HEART AND ABDOMEN

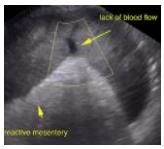
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT				1.2	42	83	0.2
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**LA** 2D short axis Base view (cm)	**LVIDd** Avg; 2D and m-mode short axis (cm)	**LVIDs** Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
PATIENT	NM	1.0	0.85		3.0	2.8	

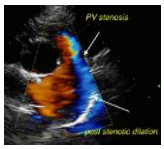
Cardiac Presentation

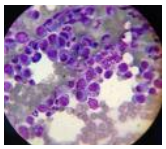
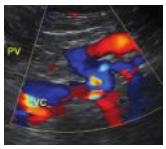
The echocardiogram in this patient demonstrated normal left atrial size based on 3 separate methods of LA evaluation. The cranial and caudal mitral valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. The left ventricle presented thicknesses with linear contour and was not dilated nor restricted. The myocardium presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. Contractility of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The left ventricular outflow tract demonstrated normal laminar flow and subjective structural integrity. The right atrium and auricle revealed normal size, structure and content. No evidence of masses was noted. Tricuspid valvular assessment demonstrated adequate linear morphology and kinesis. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Pulmonary outflow tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible pericardial or free pleural fluid was noted. A moderately sized solid uniform mildly hypoechoic mass present in the subjective mid to cranial right thorax measuring approximately 10 cm in diameter. The mass appeared to impinge upon the right heart.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or





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sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes 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 moderate loss of corticomedullary symmetry and definition expected for the age of the patient. Areas of asymmetrical renal margination were present bilaterally. No evidence of pelvic dilation was present. The left kidney measured 5.2 cm in length. The right kidney measured 5.9 cm in length.

The area of the aortic trifurcation was free of pathology.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.64 cm width at the caudal pole and 2.7 cm. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.75 cm width at the caudal pole and 2.3 cm.

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

The liver was mildly enlarged in size with areas of capsule asymmetry. Generalized non uniform to remodeled parenchyma with intermittent nonhomogeneous isoechoic to mildly hypoechoic parenchymal nodules were noted. A potential cystic appearing nodule noted in the right lateral to caudate lobe. The nodules did not appear to distort the hepatic capsule. An example of a nodule measured 2.6 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 luminal content with mild congealed 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 contained mild to moderate shadowing ingesta without signs of 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 omental masses, overt lymphadenopathy or peritoneal effusion was present.

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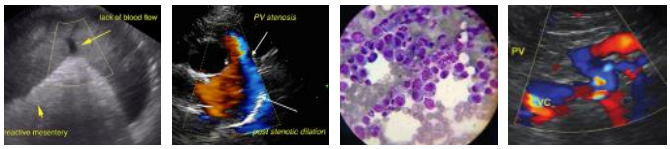

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ULTRASONOGRAPHIC FINDINGS

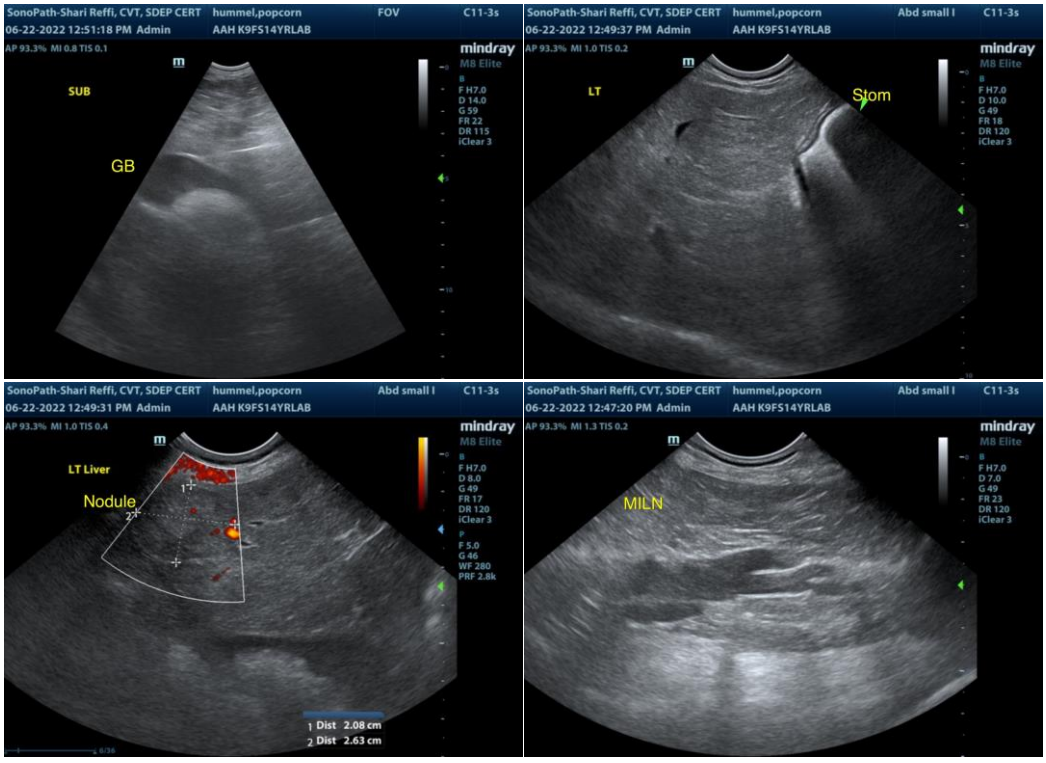
- Overtly normal cardiac structure and function
- A uniform solid thoracic mass
- Moderate chronic renal changes
- Hepatopathy exhibiting nonuniform to intermittent nodular parenchyma-vacuolar hepatopathy, inflammatory/immune mediated disease, nodular hyperplasia, hematopoiesis, lipogranulomas, neoplastic hepatopathy or other
- Mild congealed gallbladder debris (non-mucocele)
- Minor pancreatic remodeling
- Shadowing gastric ingesta-suspect post prandial presentation

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Assuming normal clotting status, an ultrasound guided FNA of the thoracic mass and hepatic parenchymal/nodule FNA is warranted for screening cytology with potential for oncology consult.

Hepatosupportive medications including Denamarin and Ursodiol may prove beneficial.

Monitoring of gastric emptying is suggested. Continued as needed GI support is recommended.



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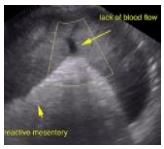
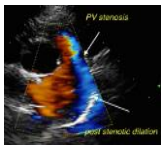
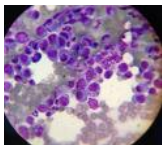
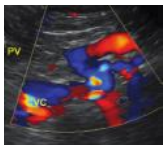

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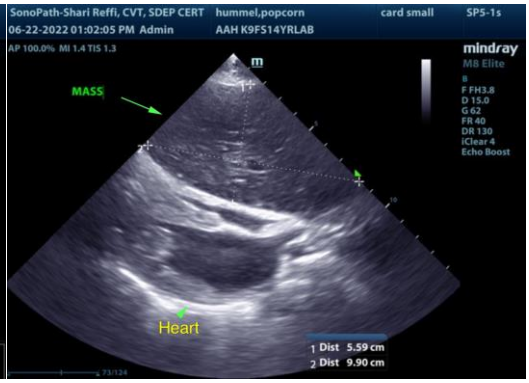

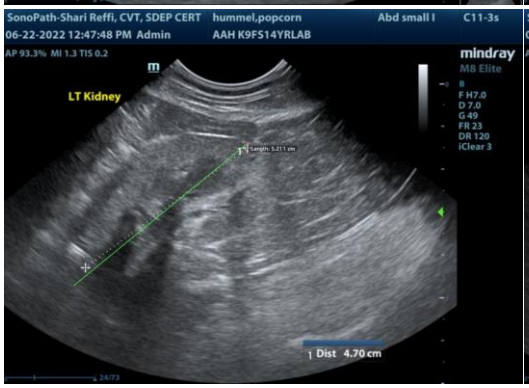

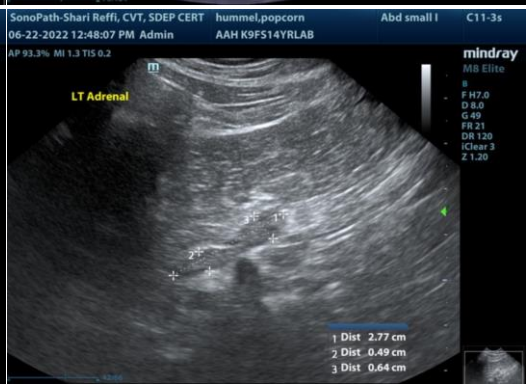

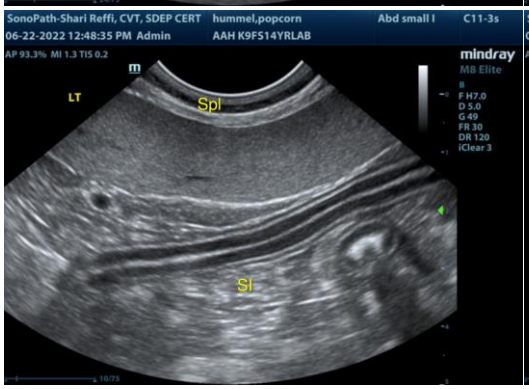

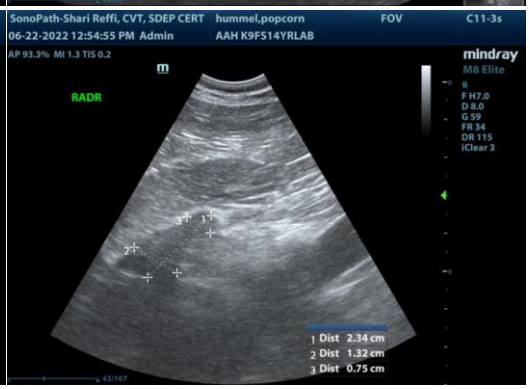

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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