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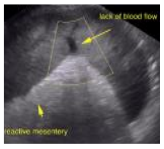
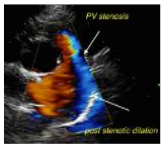
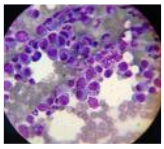
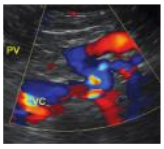





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Dash Heisley

SPECIES

Canine

BREED

Chinese Pug X

SEX

Neutered Male

AGE

7 Years 10 Months

WEIGHT

36 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Amanda Lacey- SDEP Certified Sonographer

HOSPITAL NAME

Rivers Edge PMC

REFERRING VET

Dr. David Gray

INVOICE

15117

DATE

5/9/22

PRESENTING CLINICAL SIGNS

History: History of a heart murmur, presented ADR with dehydration on 5/8
Abnormal PE/Chem/CBC/UA Results: See attached - elevated Ca PCV 63% See attached radiographs - Possible retroperitoneal mass/possible thoracic mass

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

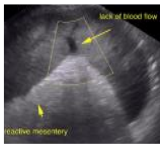
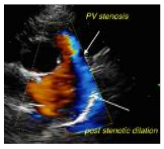
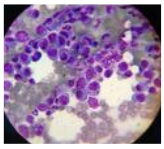
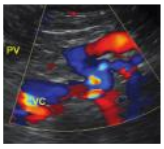
CANINE CARDIAC PARAMETERS	**MR VMAX** (m/s)	**TR VMAX** (m/s)	**LA/AO** (Boon method)	**LA/AO** (Heart Base; Swe)	**FS** (%)	**EF** (%)	**EPSS** (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	6.0	2.8	1.4	--	46.8	81.7	0.2
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**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	1.9	NM	--	3.2	3.1	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable eccentric insufficiency. 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 or chamber overload. **Tricuspid** valvular assessment demonstrated mild concurrent thickening with mild TR on doppler. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. Nonhomogeneous mass was present in the cranial mediastinum, measuring approximately 7-8 cm in diameter.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 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 changes were noted.

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The area of the residual prostate appeared normal and free of pathology.

Normal size and margination was 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 6.0 cm in length. The right kidney measured 6.0 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 0.63 cm width at the caudal pole and 0.54 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 0.68 cm width at the caudal pole and 0.9 cm width at the cranial 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

The liver exhibited mild 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 anechoic content with moderate nondependent nonorganized congealed gallbladder debris. The gallbladder was otherwise normal without evidence of gallbladder or peripheral gallbladder inflammation. The cystic duct and common bile ducts were normal without evidence of dilation.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. Minor retained anechoic fluid was present in the stomach Otherwise, no evidence of retained ingesta 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 exhibited subjective prominent size with capsule asymmetry and nonhomogeneous to hypoechoic potential nodular parenchyma.

Free Abdomen

A solitary enlarged medial iliac lymph node was present, measuring 2.7 cm x 0.85 cm. The lymph node was homogenous, mildly hypoechoic and smoothly marginated. A normal width: length ratio was maintained (<0.5). Evidence of perilymphatic inflammation was evident.

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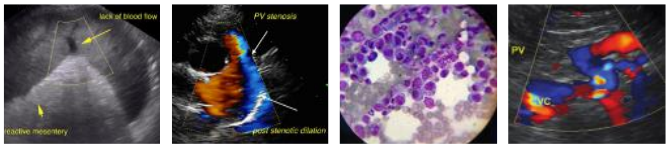

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Enlarged, hypoechoic mid to cranial abdominal mesenteric lymph nodes were present. The lymph nodes exhibited symmetrical to rounded margination with abnormal width: length ratio (>0.5). The enlarged lymph nodes were bordered by echogenic to reactive mesentery. The mesenteric lymph nodes measured 3.0 cm length and 1.5 cm width.

No evidence of peritoneal free fluid.

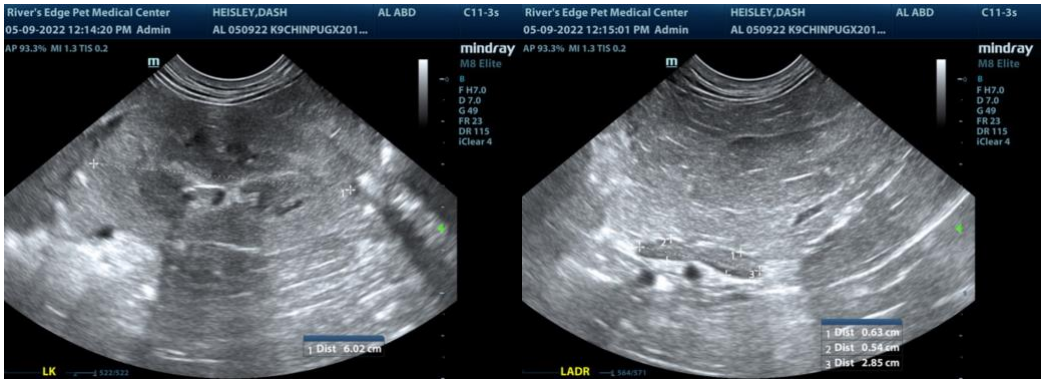
ULTRASONOGRAPHIC FINDINGS

- Compensated chronic mitral valve disease (ACVIM B-1)
- Minor TR- estimated pulmonary pressure gradient approximately 31 mmHg, suggestive of minor elevated pulmonary pressure, yet not consistent with clinical pulmonary hypertension.
- Nonhomogeneous cranial mediastinal mass
- Variably enlarged hypoechoic cranial mesenteric and focal mild medial iliac lymphadenopathy
- Prominent nonhomogeneous to potentially nodular pancreas
- Mild hepatomegaly- nonspecific
- Moderate congealed gallbladder debris- possible early gallbladder mucocele

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the presence of the cranial mediastinal mass and concurrent mesenteric lymphadenopathy in the face of documented hypercalcemia, multicentric round cell neoplastic process such as lymphoma or other is strongly suspected. Potential for concurrent mixed pattern chronic to chronic active pancreatitis is possible. Overt evidence of hepatosplenic involvement was n0ot definitively evident yet cannot be definitively excluded.

Assuming normal clotting status, ultrasound guided FNA of the cranial mediastinal mass, mesenteric lymph node (if accessible) +/- screening hepatosplenic FNA using a 25-gauge needle is recommended. Spec CPL and as needed gastrointestinal support is recommended. Correlation with hypercalcemia panel, to include ionized calcium, PTH and PTHRP levels suggested.



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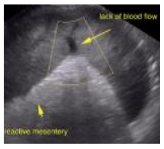
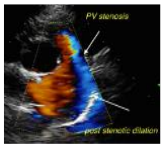
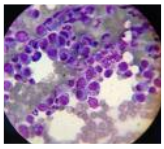
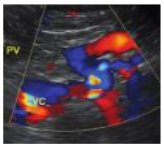

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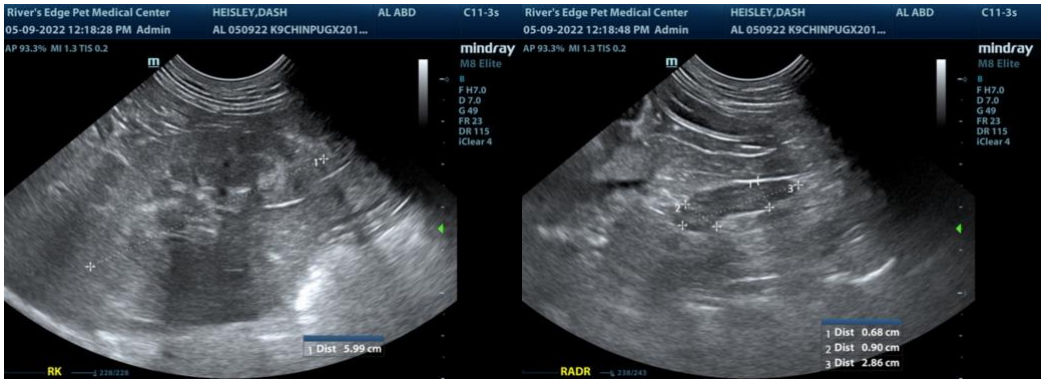

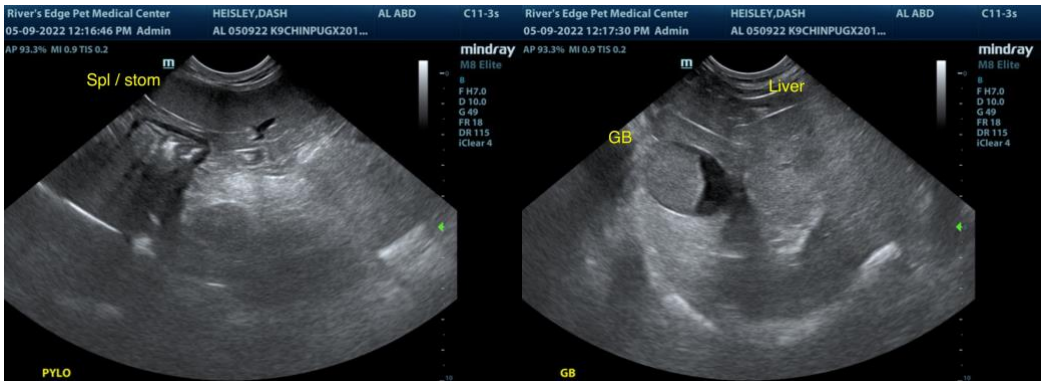

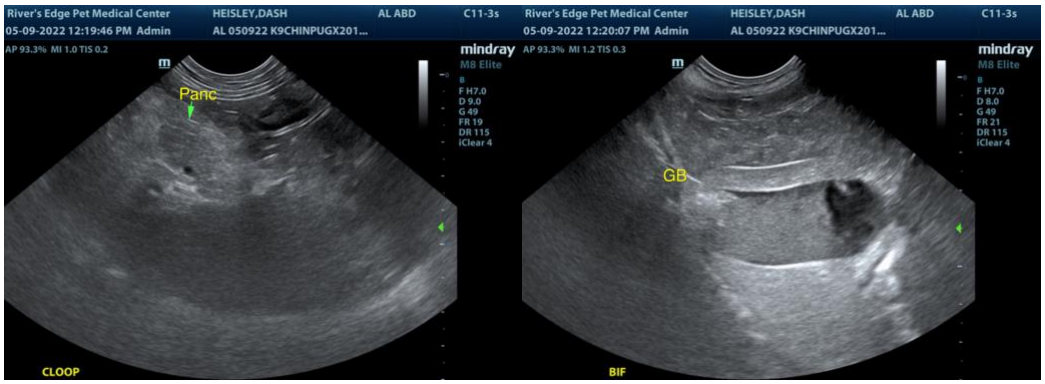

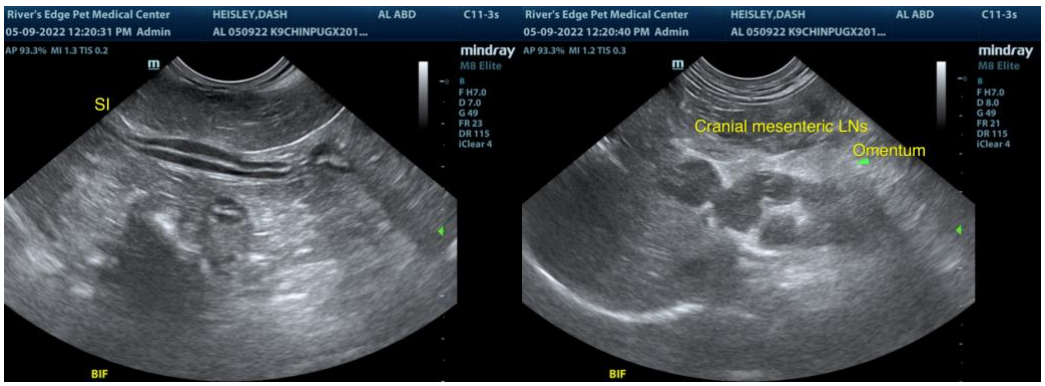

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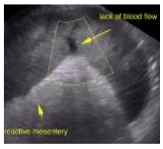
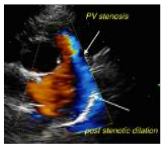
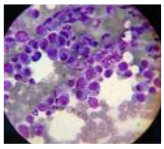
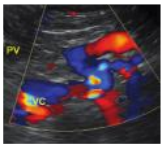

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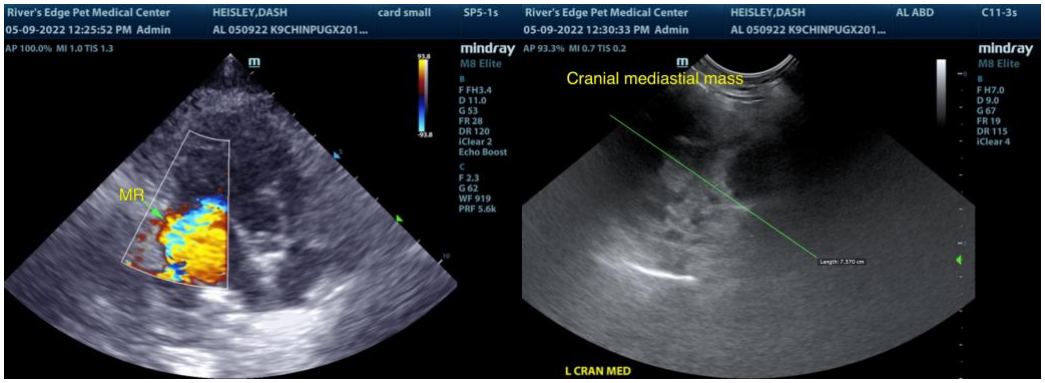

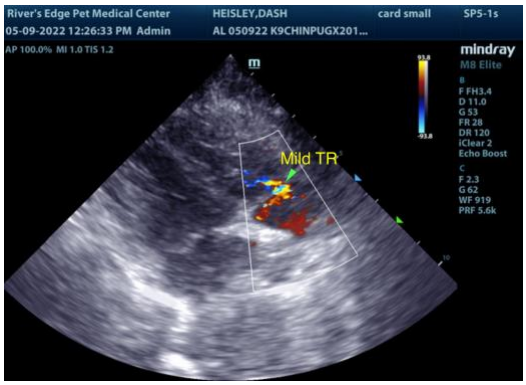

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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