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Clinical Sonography & Telecytology
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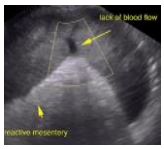
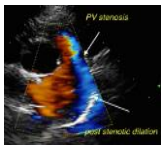
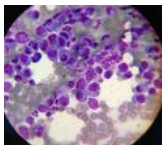
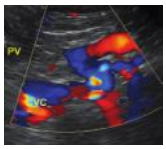





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Murphy Sutton

SPECIES
Canine

BREED
Coton de Tulear

SEX
Neutered male

AGE
15 years

WEIGHT
15.2 pounds

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

IMAGING PERFORMED BY
Diane McFadden

HOSPITAL NAME
Long Valley Animal Hospital

REFERRING VET
Dr. Welch

INVOICE
10416ag

DATE
04/18/2022

PRESENTING CLINICAL SIGNS

History: hx of elevated pancreatic enzymes; hx of heart murmuyr 2-3/6; assess for anesthesia for dental procedure

ULTRASONOGRAPHIC EXAMINATION OF THE HEART AND ABDOMEN

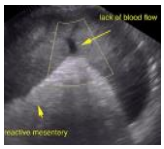
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	5.8	2.8	1.42	1.57	39.2	70.9	0.14
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY 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	147	1.4	0.8		3.1	3.3	NM

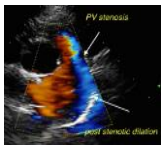
Cardiac Presentation

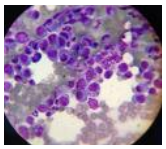
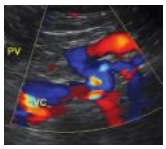
The echocardiogram for this patient presented excessive left atrial size expressed both in the LA/AO and LA max measurements Chamber volumes and echogenicity were normal. The cranial and caudal mitral valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable 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 concurrent mild vegetative thickening with mild Tron 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. No echographically detectable evidence of infiltrative disease was visible. The cranial mediastinum and pericardial regions were free of masses in the visible window

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3 cm exhibited normal thickness and tone. Echogenic to particulate sediment was present without evidence of calculus formation. 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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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 mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.4 cm in length. The right kidney measured 4.1 cm in length.

The area of the aortic trifurcation was free of pathology. No evidence of medial, iliac or sublumbar lymphadenopathy.

The residual prostate exhibited mild enlarged size compared to expected for a geriatric neutered male. Subtle asymmetrical capsule contour with nonhomogeneous indistinct hypoechoic to pinpoint parenchyma was noted. The residual prostate measured 2.3 cm in diameter. No evidence of peripheral prostate inflammation noted.

Adrenal Glands

The bilateral adrenal glands were normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 0.66 cm width in the cranial pole and 1.6 cm length. The right adrenal gland measured 0.39 cm width in the cranial pole and 1.8 cm length.

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 subjectively mildly enlarged in size with normal structure and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. 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 and mild 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 with no signs of ileus, 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 body and right limb of the pancreas presented subtle prominent size with minor hypoechoic parenchyma and potential for subtle peripancreatic reactive mesentery.

Free Abdomen

No omental masses, overt lymphadenopathy or peritoneal effusion was present.

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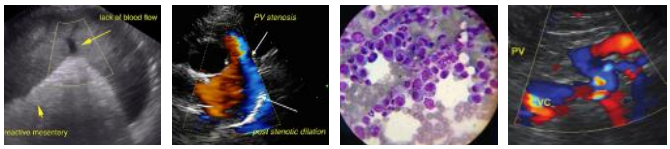

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ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1)
- TV insufficiency-estimated pulmonary pressure gradient not consistent with clinical pulmonary hypertension.
- Minor UB sediment.
- Mild residual prostatomegaly exhibiting non-homogeneous nodular to pinpoint mineralized parenchyma.
- Potential mild chronic active pancreatitis.
- Mild chronic renal changes.
- Mild GB debris.
- Mild hepatomegaly exhibiting parenchymal remodeling-subjectively benign.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The lack of LA enlargement indicated that the relative risk secondary to mitral valve insufficiency is low at this stage. No LV systolic dysfunction or evidence of pulmonary hypertension were noted. No indication for cardiac medication at this time. The anesthetic risk is considered relatively low yet this patient may be a minor risk for fluid overload. Judicious IVF use is recommended under anesthesia. Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists. Serial sonographic monitoring is required for further prognosis. Recheck echocardiogram suggest in 6 months sooner if clinical signs arise.

The residual prostate presentation is nonspecific yet is concerning for emerging pathology with specific concern for emerging prostatic neoplasia given the presence of indistinct nodular changes and parenchymal mineralization. Sampling or wash for cytology is recommended for further assessment. Sonographic monitoring t=for evidence of progression would be a more conservative approach.

A bland diet and as needed GI support if clinical signs of low-grade pancreatitis are present is recommended. Hepatosupportive medication are suggested if evidence of cholestasis is noted.

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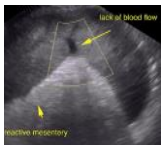
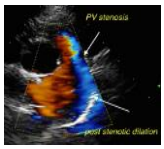
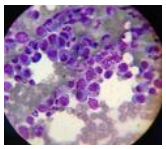
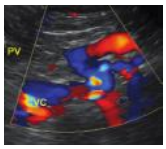

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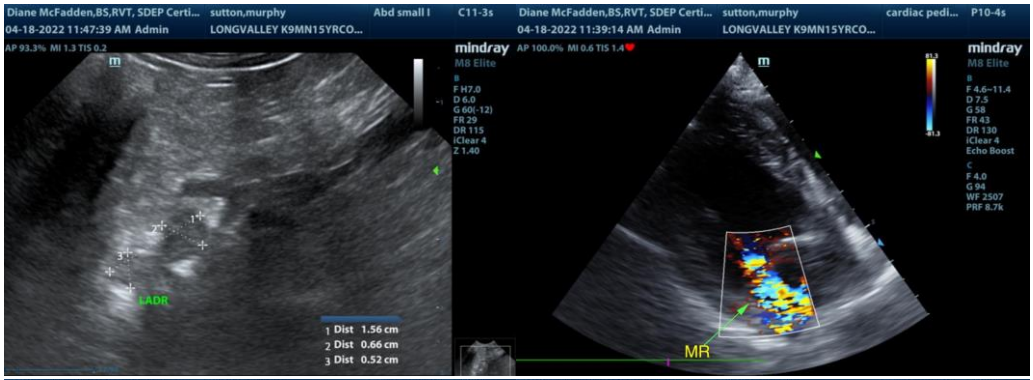

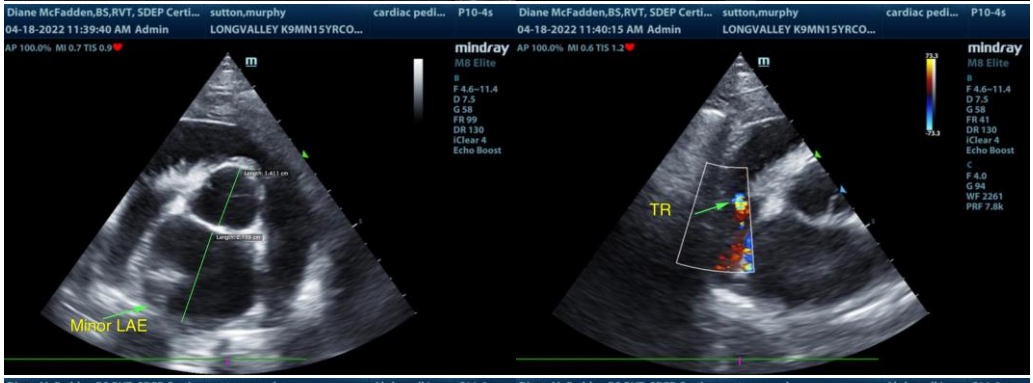

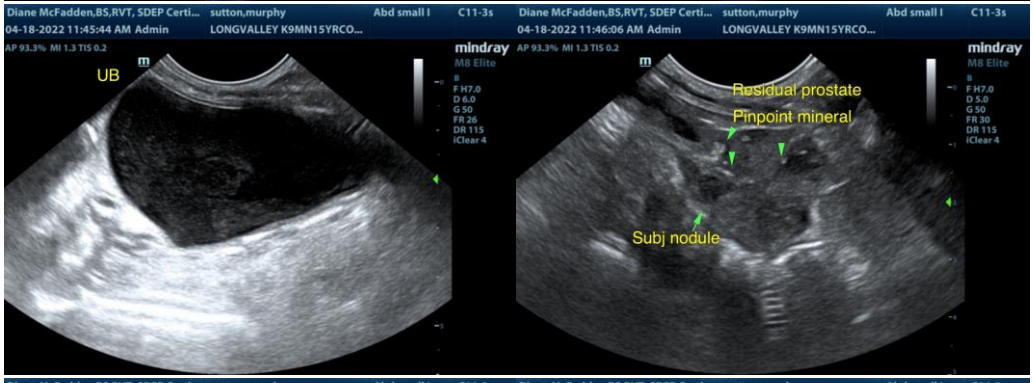

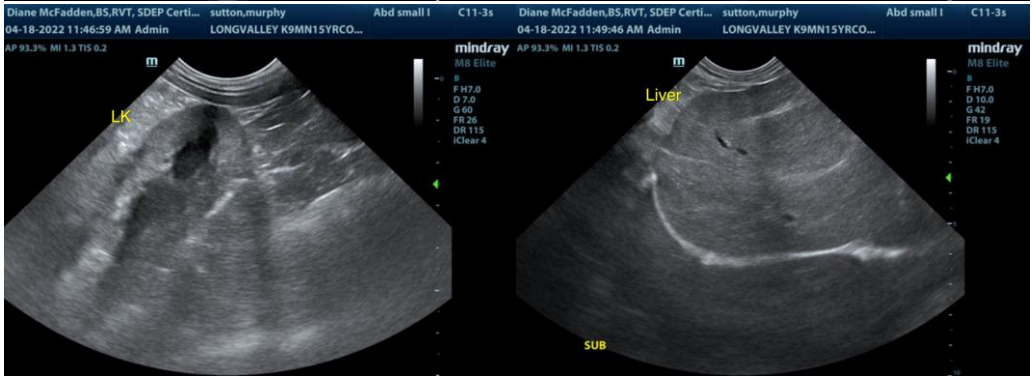

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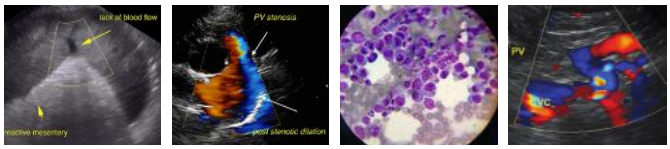

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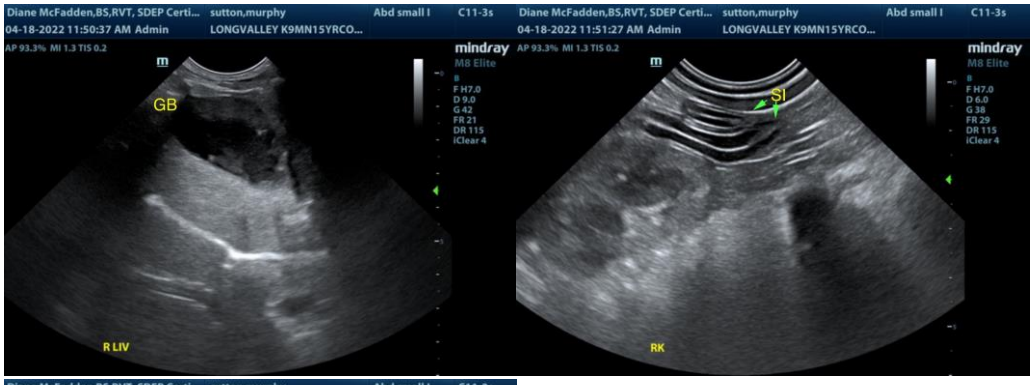

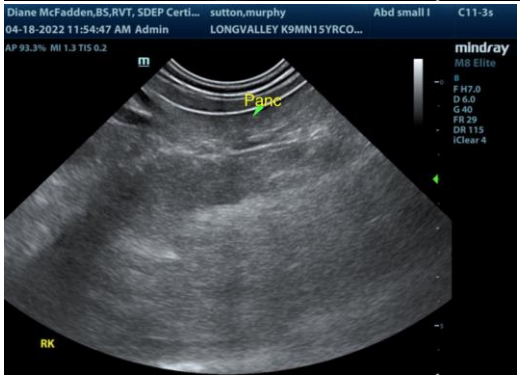

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

info@SonoPath.com