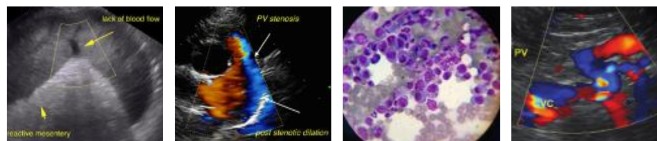
SonoPath

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Rambeau Mo

SPECIES

Canine

BREED

Yorkie

SEX

Neutered Male

AGE

13 Years

WEIGHT

3.7 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Dave Stasiuk, RDMS, RDCS

HOSPITAL NAME

Aspen AH

REFERRING VET

Dr. Sekhon

INVOICE

20641

DATE

1/19/23

PRESENTING CLINICAL SIGNS

History: Grade 4 murmur. Pre anesthesia. Hx of pancreatitis. Please assess biliary tract.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

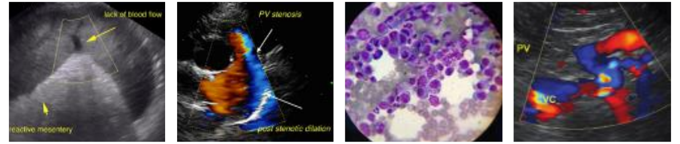
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	--	<2.0	NM	1.45	47.5	81	0.2
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (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	1.0	--	2.4	2.4	--

Cardiac Presentation

The echocardiogram for this patient presented minor increased **left atrial size** based on 2 different LA measurement methods. The cranial and caudal **mitral** valve leaflets presented moderate to marked thickening, specifically in the septal leaflet consistent with endocardiosis. Minor septal leaflet prolapse was present. Doppler indicated moderate eccentric insufficiency. The **left ventricle** presented normal thicknesses with mild alinear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity with evidence of mild age-related myocardial remodeling yet without 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 thickening with mild valvular prolapse and 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. 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 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. Aortic trifurcation was normal.



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The residual prostate was free of pathology.

Normal size and margination were 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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 3.6 cm in length. The right kidney measured 3.8 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 0.29 cm width at the caudal pole and 0.24 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 0.28 cm width at the caudal pole and 0.37 cm width at the cranial pole.

Spleen

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.

Liver

The liver was subjectively normal in size, 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 with primarily anechoic content and mild nondependent to focally congealed luminal debris, potential for small mid dorsal wall polyp. No evidence of inflammatory gallbladder or peripheral gallbladder criteria. 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.

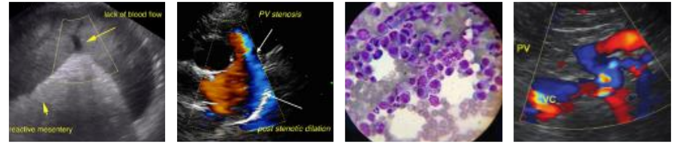
The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

The pancreas was normal in size and contour with heterogeneous to mixed echogenic parenchyma compared to adjacent omentum. Discrete nondisruptive nodules were noted in the area of the pancreas base or right pancreatic limb, measuring 0.52 cm in diameter. No signs of active inflammation or neoplasia.

Free Abdomen



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No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Compensated chronic mitral valve disease (ACVIM B-1)
- Concurrent mildly thickened TV with mild TR- no evidence of clinical pulmonary hypertension
- Mild chronic renal changes
- Remodeled to focally nodular pancreas- remodeling owing to previous inflammatory episode, persistent chronic pancreatitis with suspect discrete nodular hyperplasia is likely. No evidence of pancreatic neoplastic criteria.
- Hepatic parenchymal remodeling
- Mild nondependent to congealed gallbladder debris- possible focal polyp

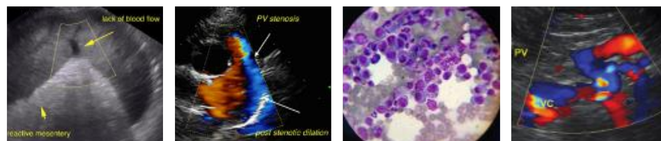
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary primary eccentric MR and mild TR. NO other clinical issues, such as LV systolic dysfunction were present. The lack of significant left atrial enlargement implies that the risk of complication secondary to MR is low and, without current clinical signs, indicates that medical therapy is not required, however, prognosis is highly variable and sonographic monitoring is recommended. Recheck echocardiogram is suggested in 6-12 months or sooner if clinical signs arise. No anesthetic contraindications. The following anesthetic protocol is suggested. 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.

https://www.antechdiagnostics.com/cadet-braf

Aside from the potential chronic pancreatitis, largely geriatric abdomen without evidence of significant visceral pathology.

Empirical therapy for chronic pancreatitis is recommended if clinically indicated. Hepatosupportive medications, including Denamarin and Ursodiol may be considered if evidence of hepatic enzyme elevations/cholestasis.



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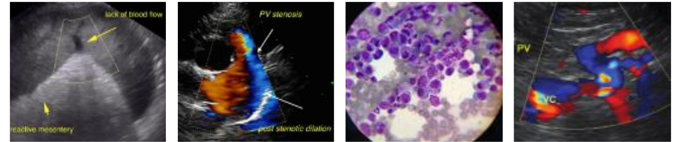

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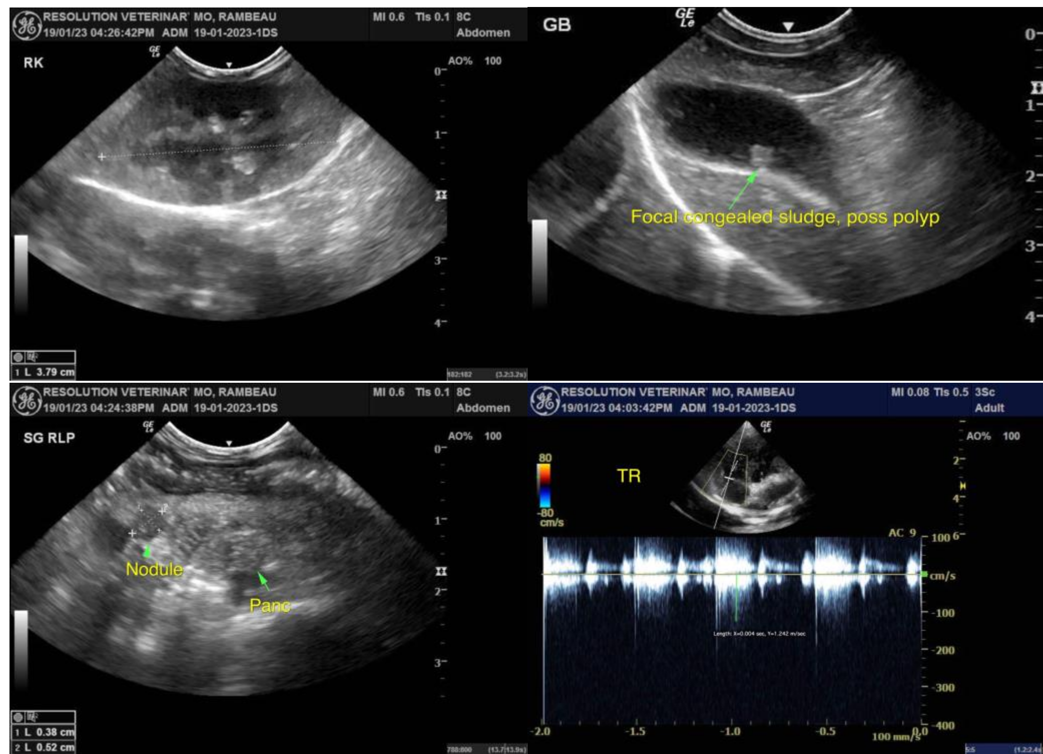

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com