SonoPath
Clinical Sonography & Telecytology
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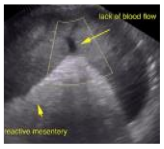
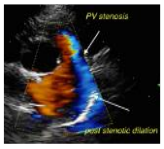
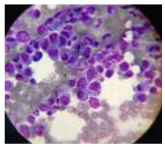
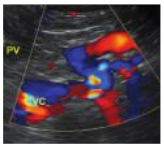

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1-800-838-4268 info@sonopath.com

PATIENT

Maggie Hirstius

SPECIES

Canine

BREED

Basset Hound

SEX

FS

AGE

8.5 years

WEIGHT

74 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Ramapo Valley AH

REFERRING VET

Dr. Katara

INVOICE

15845

DATE

1/17/23

PRESENTING CLINICAL SIGNS

Patient presents for grade 4/6 systolic heart murmur, needs to go under general anesthesia. No current meds.

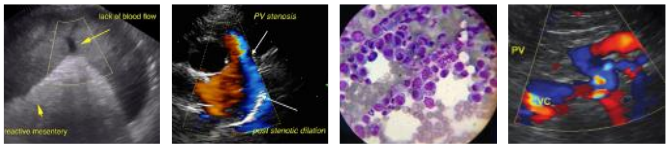
Abnormal PE/Chem/CBC/UA Results: Blood work done 8/6/2022 was WNL. U/A: 1+ protein, USG 1.018.

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	5.3		1.3	1.3	37.5	72	0.25
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	89	1.3	1.0		4.3	4.0	

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 mild thickening most consistent with mild endocardiosis. No evidence of valvular prolapse or chordae tendinea rupture. Doppler indicated a measurable centralized to 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 systolic laminar flow and overall normal subjective structural integrity. Normal measured LVOT velocity without evidence of stenotic disease with aortic insufficiency on Color Doppler measuring 1.8 m/s velocity. The **right atrium** and auricle revealed normal size, structure, and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. 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). Normal measured RVOT velocity. No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence



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of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window. No arrhythmia was noted.

ULTRASONOGRAPHIC FINDINGS

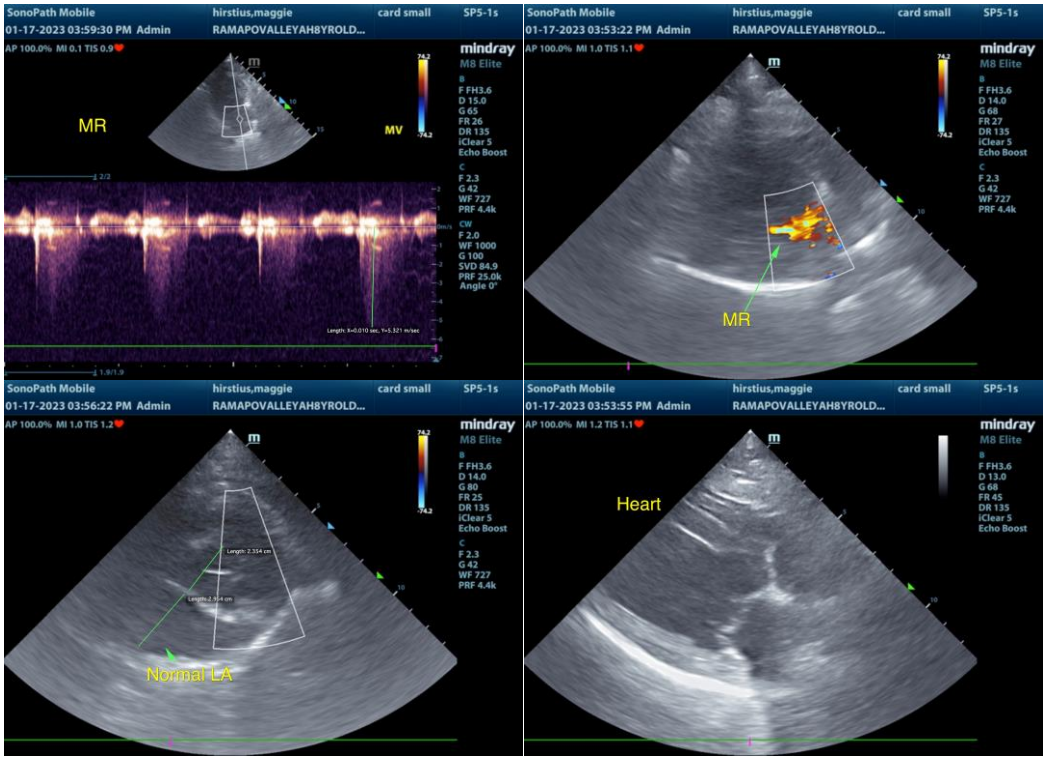
- Overtly normal cardiac structure and function
- Compensated mitral valve insufficiency (ACVIM B1)
- Aortic insufficiency

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is most consistent with mild potentially early onset chronic mitral valve changes with secondary MR. The lack of left atrium enlargement or left heart volume overload indicates that the current and future risk secondary to MR is low. In a nonclinical patient without evidence of significant chamber enlargement, cardiac medications are not indicated. Assessment of systemic blood pressure for evidence of hypertension, given the aortic insufficiency, is recommended. If systemic hypertension is documented, a full abdominal ultrasound may be considered to assess for contributing pathology. No other clinical issues such as LV systolic dysfunction or evidence of clinical pulmonary hypertension.

Given this presentation, no overt anesthetic contraindications. The following anesthetic protocol is suggested. Recheck echocardiogram is recommended in 6 months to assess for evidence of progression, sooner if clinical signs arise or if murmur intensity increases.

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.



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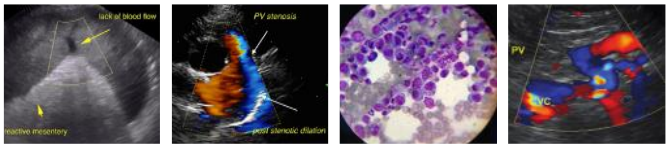

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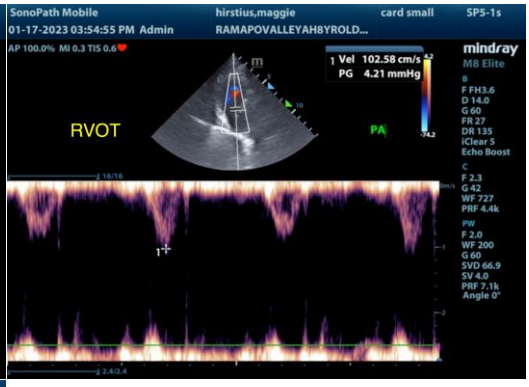

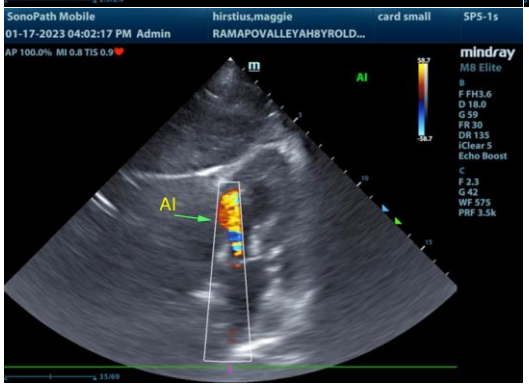

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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