



PATIENT

Misty Miller

SPECIES

Canine

BREED

Mixed Breed Pit Bull

SEX

Female Spayed

AGE

Approx 9 yrs

WEIGHT

60 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Meredith Swart

HOSPITAL NAME

Swart Veterinary
Imaging

REFERRING VET

Dr. Meredith Swart

INVOICE

14267

DATE

7/7/22

PRESENTING CLINICAL SIGNS

New patient to rDVM. Referred for mass removals suspected to be mast cell tumors as p has hx of MCT. Grade IV murmur auscultated at pre-op exam. Also arrhythmia auscultated. Pre-op ECG run and sent to IVS telemedicine. Patient non clinical for heart disease. ECG findings include pronounced sinus arrhythmia with periods of sinus arrest. One run of ventricular bigeminy (15 secs long at a rate of 110-1 VPC for every sinus complex) was noted. A full ecg has been ordered and is pending through IVS AUS also performed today following echo due to liver elevations. Liver was found to be enlarged with multiple small (1 cm and less) round hypoechoic lesion seen throughout. R/o nodular hyperplasia vs. neoplasia vs chronic hepatitis, splenic parenchyma was diffusely grainly/mottled- r/o nodular hyperplasia vs neoplasia vs EMH, bilatearily enlarged adrenal glands (approx 1 cm) Abnormal PE/Chem/CBC/UA Results: pre-op labwork showed ALP 853, ALT 868, GGT 17 and remainder of labwork WNL.

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	39.7	73.6	0.37
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	1.2	0.88		6.3	6.3	

Cardiac Presentation

The echocardiogram in this patient demonstrated moderately enlarged **left atrial** size based on 3 different LA measurement methods. Mild to moderate deviation of the interatrial septum towards the right atrium consistent with increased left atrial pressure was present. The cranial and caudal **mitral** valve leaflets presented mild vegetative thickening suggestive of endocardiosis without evidence of valvular prolapse. Doppler indicated moderate eccentric insufficiency. The **left ventricle** presented normal thicknesses with maintained linear contour with increased left ventricle volume comparable in size to the left atrium. 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



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revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated concurrent mild thickening with minor TR. 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. No evidence of consistent arrhythmia, although given the patient history, potential for Intermittent non-visualized arrhythmia is possible.

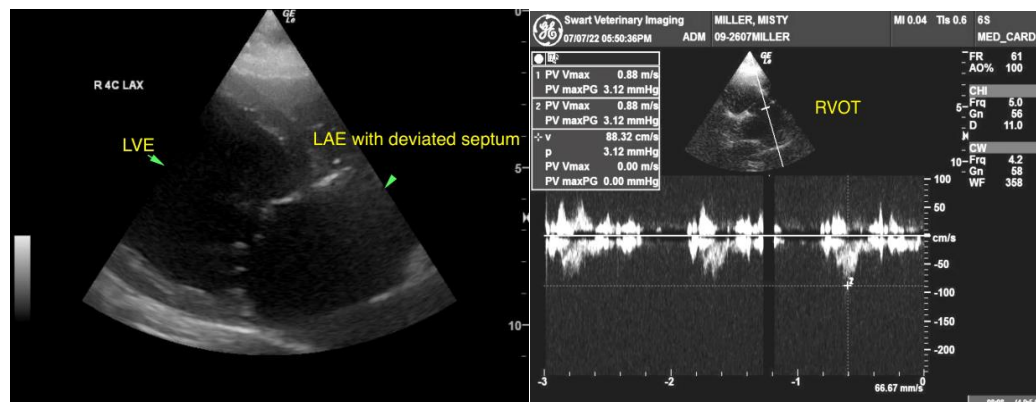
ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM advanced B2, possible emerging C)
- Minor TR - no overt evidence of concurrent clinical pulmonary hypertension

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The study is most consistent with chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency as a cause of the murmur. The moderate LA and LV enlargement indicate that the risk of current and future complications going forward is moderately elevated.

Three view thoracic radiographs to assess for evidence of emerging pulmonary edema as well as monitoring resting respiration rate is recommended. Vetmedin 0.3 mg/kg PO BID Is warranted. If no evidence of current pulmonary edema, a weak diuretic such as Spironolactone 1.0-2.0 mg/kg PO BID could be considered while Lasix 1.0-2.0 mg/kg PO BID at the lowest effective dose is recommended if clinical evidence of left-side congestion is present or arises. Mild salt restriction and omega-3 fatty acids may prove beneficial. Assessment of systemic BP Is recommended. ACE inhibitor medication could be considered if systemic BP >130, (not advised if <130). Serial sonographic monitoring is required for further prognosis. No overt evidence of Infiltrative cardiac neoplasia was noted. Recheck sonogram is suggested in 4-6 months, sooner if clinical signs arise. Correlation with pending full ECG is recommended.





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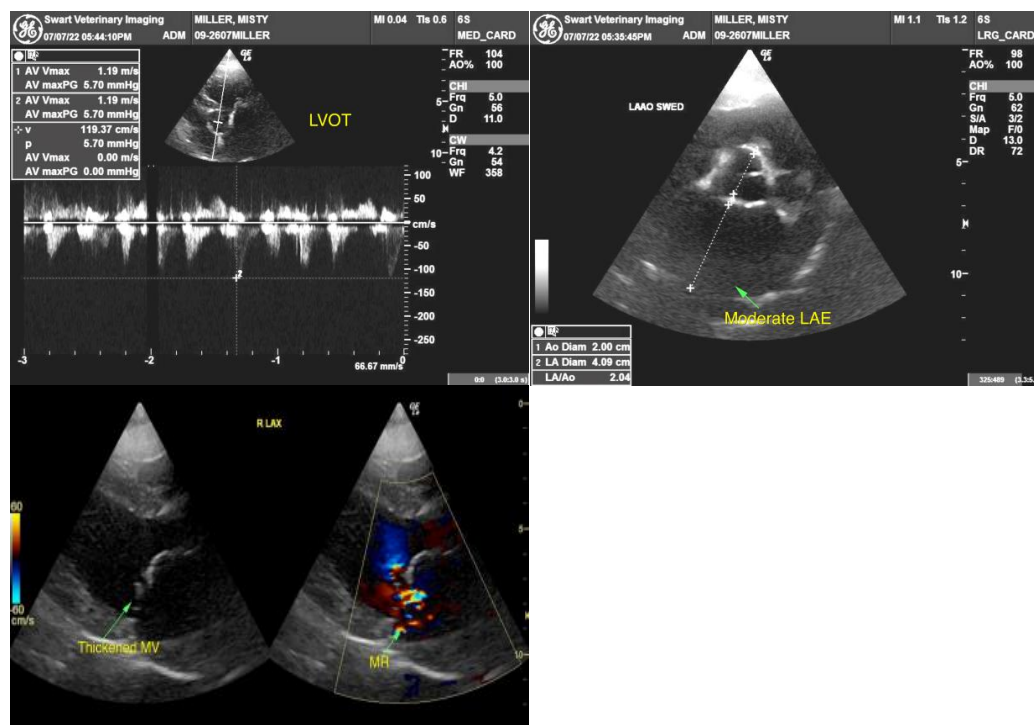
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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