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Clinical Sonography & Telecytology
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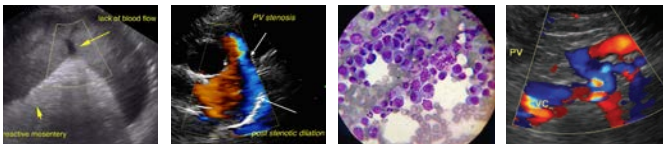

PATIENT
Lucy Marchan

SPECIES
Canine

BREED
Beagle

SEX
Spayed Female

AGE
10 Years

WEIGHT
34 Pounds

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

IMAGING PERFORMED BY
Dr. Gromalak

HOSPITAL NAME
SVS Imaging

REFERRING VET
Dr. Katie Boockmeier

INVOICE
24553

DATE
8/11/21

PRESENTING CLINICAL SIGNS

Patient presented for a wellness examination 7/16. No concerns from owner. A III/VI systolic heart murmur was noted.
Abnormal PE/Chem/CBC/UA Results: Heavy dental tartar CBC/Chem/T4/HWT--NSF

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	<1.6	28-40	40-100	<0.6
PATIENT	5.8	1.0	NM	1.75	48.1	80.5	0.27
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	176	2.0	1.2		4.8	3.5	

Cardiac Presentation

The echocardiogram for this patient presented mild to moderately excessive **left atrial size** expressed both in the LA/AO and LA max measurements. Mild deviation of the intraatrial septum towards the right atrium was present, suggestive of mild increased left atrial pressure. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable eccentric insufficiency. The **left ventricle** presented normal thicknesses with linear contour with subjective mild increased left ventricular volume. 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 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). 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.

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B2), mild to moderate left atrial enlargement

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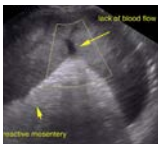
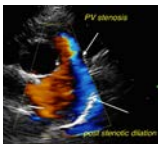
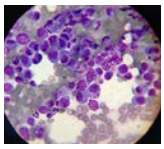
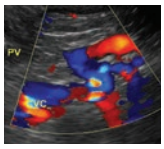

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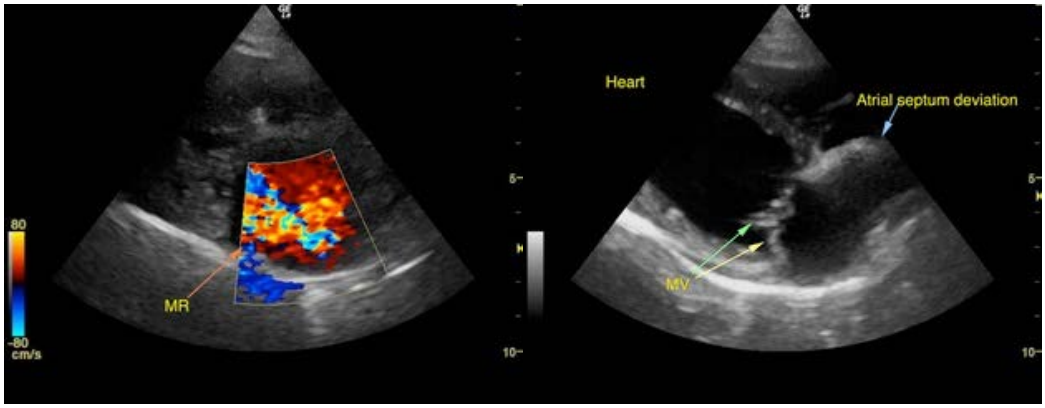
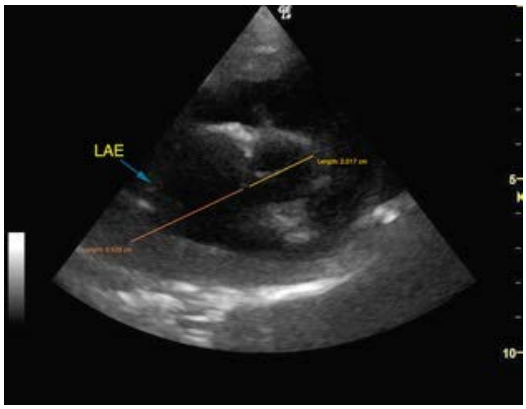
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is secondary to chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The mild to moderate left atrial enlargement as well as subjective mild increased left ventricular volume indicate that the risk of future complication is elevated, although prognosis at this stage is highly variable. Given the presence of mild to moderate left atrial enlargement as well as subjective mild increased left ventricular volume, Pimobendan 0.3 mg/kg PO BID is warranted, as this medication may potentially prolong additional cardiac changes associated with mitral valve insufficiency. Baseline monitoring of resting respiration rate at home is recommended. No other other issues such as systolic dysfunction or clinical pulmonary hypertension noted. Anesthetic risk is considered relatively low at this time, yet the patient may be at risk for fluid overload. If anesthesia is required, the following anesthetic protocol is recommended with judicious supportive fluid use. Recheck echocardiogram suggested in 6 months to assess for evidence of progression, sooner if clinical signs consistent with heart disease develop.

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.





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)
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