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SVS Mobile Imaging 262-366-5970
fredgromalak@gmail.com

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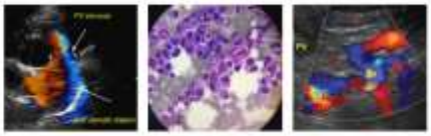

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PATIENT

Little Debbie Cuder

SPECIES

Canine

BREED

Dachshund

SEX

FS

AGE

11 Years

WEIGHT

18 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Gromalak

HOSPITAL NAME

SVS Imaging

REFERRING VET

Dr. Landry

INVOICE

49423

DATE

1-9-22

PRESENTING CLINICAL SIGNS

4/5-6 heart murmur. needs a dental. has a cough

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			--	2.0	52.6	85.2	0.1
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	BELOW	BELOW	BELOW	BELOW
PATIENT	240	3.4-3.9	0.8		3.8	3.0	

Cardiac Presentation

The echocardiogram in this patient demonstrated moderate **left atrial** enlargement based on 2 different LA measurement methods. Mild deviation of the intra-atrial septum towards the right atrium suggestive of increased left atrial pressure was present. The cranial and caudal **mitral** valve leaflets presented moderate vegetative thickening more prominent in the septal leaflet consistent with endocardiosis. Doppler indicated measurable centralized to eccentric insufficiency. Also associated with the septal mitral valve leaflet was some degree of systolic anterior motion of the mitral valve (SAM). The **left ventricle** presented overall normal thicknesses with mild linear contour suggestive of some degree of LV myocardial remodeling. Concurrent mildly prominent to remodeled papillary muscles within the left ventricle lumen were present. The **myocardium** presented increased normal echogenicity without overt 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 mild turbulent flow yet 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 without evidence of significant 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 overt evidence of arrhythmogenic disease yet subjective tachycardia possible.

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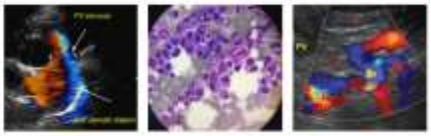

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ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM b2) with concurrent mild SAM.
- LV myocardial remodeling.
- Potential tachycardia.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is suspected to be primarily secondary to chronic degenerative valvular changes and mitral valve insufficiency; however, a contributing factor to the murmur may potentially include turbulent blood flow and mild elevated LVOT velocity owing to some degree of dynamic obstruction secondary to SAM. The moderate left atrium enlargement indicates that this patient's risk for clinical signs is moderately elevated.

In cats with SAM, Pimobendan does not seem to make dynamic obstruction worse which is likely the case in dogs. Therefore, Pimobendan 0.3mg/kg po bid recommended given the degree of left atrium enlargement as this medication may help prolong cardiac changes associated with mitral valve insufficiency. The cough in this patient may be multifactorial in origin yet some degree of the cough may be secondary to, assuming no evidence of cardiogenic edema, mainstem bronchi compression or irritation, hydrocodone trial is recommended. If evidence of cardiogenic pulmonary edema, lowest effective dose of diuretic i.e., Lasix 1.0-2.0 mg/kg po bid or solitary weak diuretic such as spironolactone 1.0-2.0 mg/kg po bid if no evidence of cardiogenic edema may be considered.

Given the presence of SAM in this patient, in the face of moderate left atrial enlargement, atenolol is not recommended unless supraventricular tachycardia is currently present or if pathologic arrythmia or syncopy develop, at which time recheck echocardiogram is suggested.

Recheck echo is recommended in 6 months regardless to assess for evidence of progression, sooner if clinical signs initiate.

Anesthetic risk in this patient is considered elevated. If anesthesia is required, the following 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.

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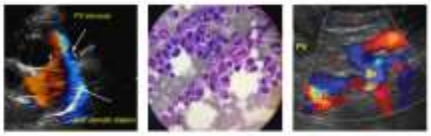

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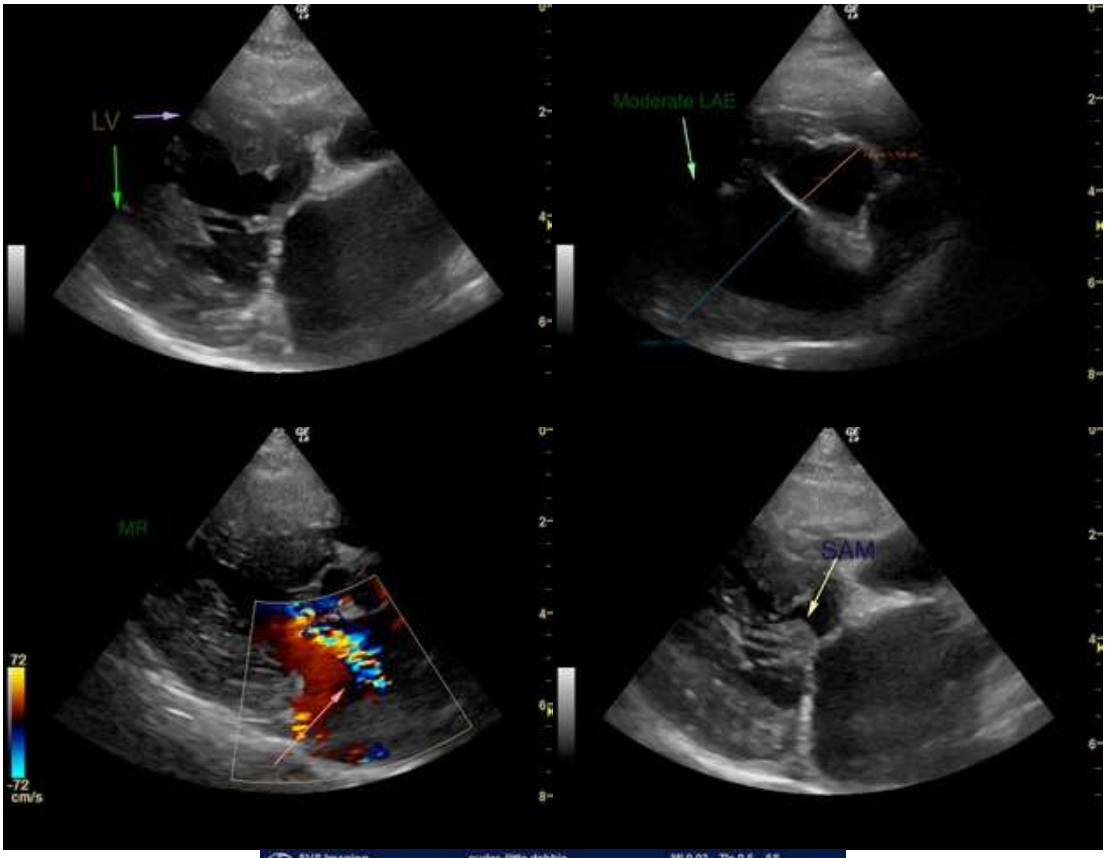

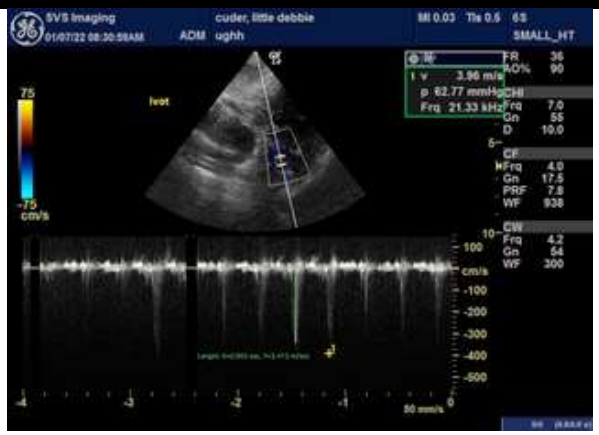

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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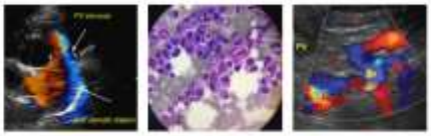

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