



PATIENT

Gemma Ray

SPECIES

Canine

BREED

Chihuahua

SEX

FS

AGE

6

WEIGHT

5.4 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Pamela Veldman

HOSPITAL NAME

Antler Hill VS

REFERRING VET

Dr. Tanja

INVOICE

10776

DATE

4/7/26

PRESENTING CLINICAL SIGNS

Presented last week for changes to breathing that owner noticed, worse while sleeping. Respiratory rate seemed increased and requiring more effort to owner. No coughing or syncopal episodes noticed. Ausculted new murmur when examined in clinic, lungs sounded clear bilaterally. Recommended echo to determine if changes to breathing might be cardiogenic in nature.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	-	-	1.3	-	45	78	0.1
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	LAD LA MAX 4 Chamber	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	5.4 kg	2.2	2.1	-

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 2 different LA measurement methods. The cranial and caudal **mitral** valve leaflets presented thickening consistent with degenerative changes / endocardiosis with mild septal leaflet prolapse. 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 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). Normal measured RVOT velocity was noted. No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of cardiac / pericardial tumors was visible.



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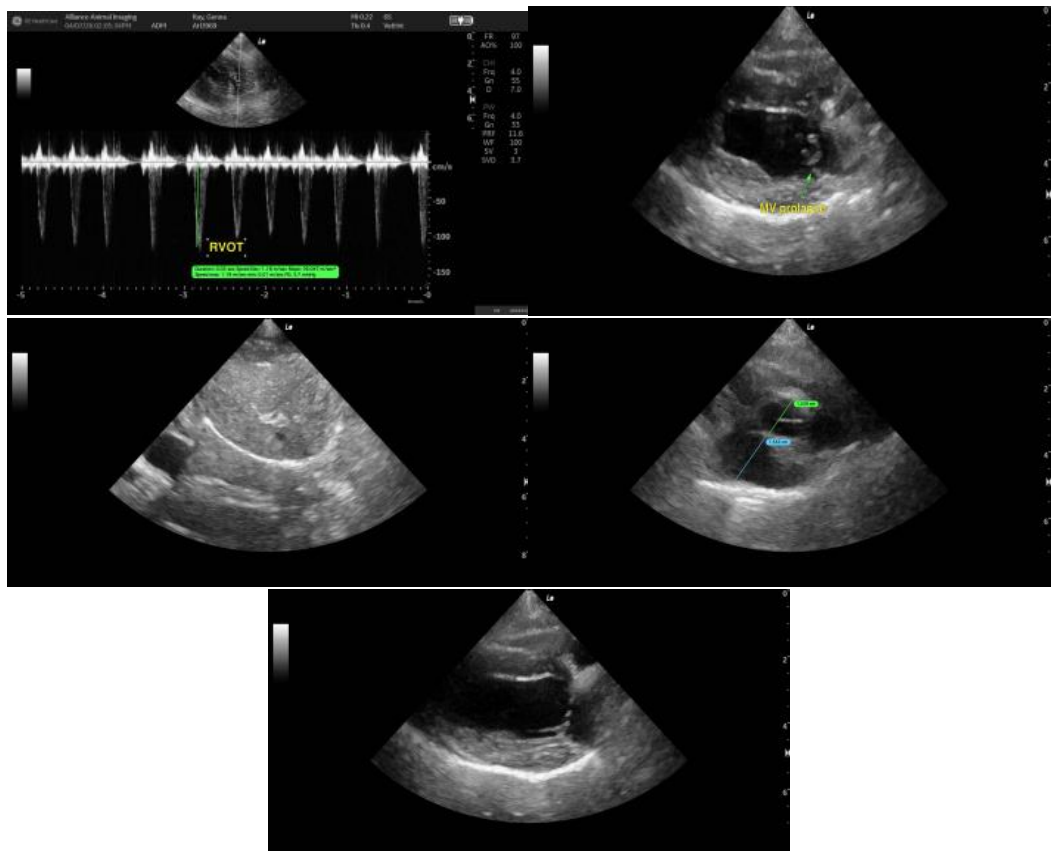
ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (B1)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Although not evident on Color Doppler assessment, the cause of the murmur is most consistent with mitral valve insufficiency, given mitral valve changes and mild valvular prolapse. Regardless of classification, the hemodynamic effects of the murmur appear low, given no evidence of left or right heart chamber enlargement. There is no evidence of clinical pulmonary hypertension. The respiratory signs in this patient appear noncardiogenic in origin. There is no indication for cardiac medications. Conservative monitoring of the murmur going forward is advised with a recheck echocardiogram suggested in 6-12 months, as the prognosis is variable, sooner if clinically indicated. The current cardiac anesthetic risk is considered mild. If 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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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