



PATIENT

Penny Rawlins

SPECIES

Canine

BREED

Puggle Mix

SEX

Spayed Female

AGE

11 Years

WEIGHT

45 Pounds

INTERPRETED BY

Eric Lindquist, DMV,
 DABVP (Canine & Feline), Cert. IVUSS

IMAGING PERFORMED BY

Rebecca Hamilton

HOSPITAL NAME

Newburgh VH

REFERRING VET

Dr. Harlec

INVOICE

37423

DATE

6/8/26

PRESENTING CLINICAL SIGNS

History: Recent onset murmur, grade 3-4/6 hear on exam. Clinical Findings: none attributed to cardiac disease; has atypical Cushing's disease, osteoarthritis, atopy, and history of soft tissue sarcoma right hind limb. Meds: Denamarin, Mitotane, Gabapentin, Zenrelia, Librela, give 0.4 ml Torb for scan and 2 ml Cerenia. Abnormal PE/Chem/CBC/UA Results: AlkP 5091

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	6.63	--	1.6	1.6	45	80	0.1
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (lbs)	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	160	1.50	1.30	45	3.9	3.6	--

Cardiac Presentation

The echocardiogram in this patient demonstrated mildly enlarged **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. The **left ventricle** presented normal 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). 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



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in the visible window. A large amount of pulmonary interference was noted in this patient, which obscured some visibility.

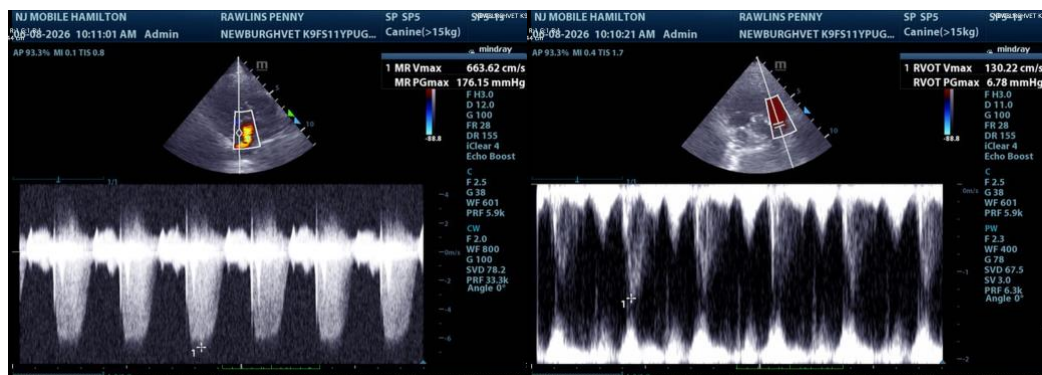
ULTRASONOGRAPHIC FINDINGS

- ACVIM, early stage B2 valvular disease
- Mitral insufficiency
- Mild left atrial enlargement
- Large amount of pulmonary interference

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

I believe there is cardiac, but also likely a pulmonary component in this patient. Regarding the cardiac presentation, I recommend initiating pimobendan at a dose of 0.3 mg/kg BID if vertebral heart score is excessive on radiographs. Serial blood pressures are warranted under Torbutrol to ensure white coat effect is not an issue. The LA max measurement of the left atrium is most representative in this patient.

The heart has minor volume overload and is working to compensate for the valvular insufficiency. Target respiratory rate is < 20 resp/minute after therapy. After initiating or adjusting therapy, I recommend recheck on the clinical exam, BUN, Creatinine, USG, Chest radiographs & Blood pressure in 5-7 days. Recheck echo in 6 months, earlier if clinical decompensation is occurring. Minor anesthetic risk for a brief procedure at this time. Repeat preanesthetic echo is ideal if anesthesia is eventually necessary. A suggested anesthetic combination would involve Torbutrol premed, propofol induction, Isoflurane maintenance or equivalent protocol.





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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.

Eric Lindquist, DMV, DABVP(CFM), Cert. IVUSS,
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