



PATIENT

Toby Suh

SPECIES

Canine

BREED

Shih Tzu

SEX

Male

AGE

15

WEIGHT

7.7

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Paul Kim

HOSPITAL NAME

Ridgefield Park Ah

REFERRING VET

Dr. Paul Kim

INVOICE

13407

DATE

2/23/22

PRESENTING CLINICAL SIGNS

Came in on 2/10/2022 For coughing as well as not eating or drinking for a few days. Patient was BAR at presentation, severely tachypnea, pale MM. Heart murmur grade V/VI, left side, between 3-5 IC space. X-rays showed right lung profuse edema, left lung caudal lung lobe edema formation

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	6.0	2.5	1.5	1.63	52.4	85.1	0.2
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	NM	1.2	NM		2.6	2.6	

Cardiac Presentation

The echocardiogram in this patient demonstrated moderately enlarged **left atrial** size based on 3 different LA measurement methods. Subtle interatrial deviation towards the right atrium suggestive of mild elevated LA pressure was present. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis with mild prolapse of the anterior MV leaflet. Doppler indicated measurable moderate eccentric insufficiency. The **left ventricle** presented normal thicknesses with linear contour with subjective minor increased LV 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 subjective mild thickening with mild 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.



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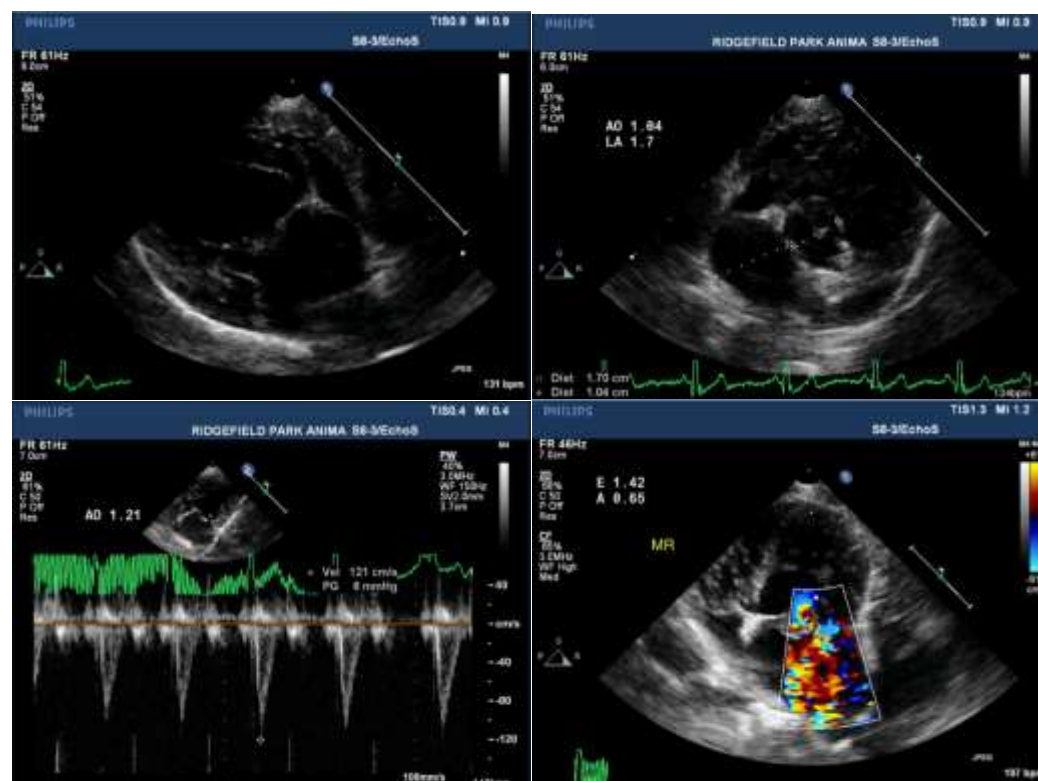
ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B2) with mild anterior MV leaflet prolapse
- TV regurgitation - estimated pulmonary pressure gradient based on measured TR suggestive of mild elevated pulmonary pressure yet not overtly consistent with clinical pulmonary hypertension

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is secondary to chronic degenerative valvular changes with primary eccentric MR and minor TR. The moderate LA enlargement suggests that the current and future risk going forward of potential complication is elevated. Subjectively, the degree of LA enlargement was not overtly consistent with that which would typically be associated with congestion. However, this possibility may be possible, yet potential consideration for multifactorial component to pulmonary edema i.e., noncardiogenic pulmonary edema, may be indicated.

Having said that, Pimobendan 0.3 mg/kg PO BID, as well as Diuretic therapy i.e., Lasix 1.0-2.0 mg/kg PO BID, is recommended with an assessment of clinical and radiographic response. Monitoring of BP and renal parameters is advised. If BP is > 130, an ACE inhibitor medication could be considered, (not advised if BP < 130). If not done, hospitalization with initial stabilization with oxygen and IV diuretics may be indicated. Recheck echocardiogram is suggested in 4-6 months pending clinical response to therapy, sooner if continued episodes of suspected CHF are noted.





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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.

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