



**PATIENT PRESENTING CLINICAL SIGNS**

**PATIENT**  
Eden Duong

**SPECIES**  
Canine

**BREED**  
Chihuahua

**SEX**  
Neutered male

**AGE**  
14 years

**WEIGHT**  
13 lbs

**INTERPRETED BY**  
Eric Lindquist, DMV DABVP, Cert. IVUSS

**PRESENTING CLINICAL SIGNS**  
Pet presented for possible PU/PD in November 2021. (PU/PD ?? (drinks nothing during day, drinks a lot at night then needs to urinate early morning). Elevated Kidney values detected. Follow up Echo- pet overdue his annual check. Prev diagnoses: 1: chronic degenerative valve disease affecting mitral Valve. (severe MR, no LAE, equivocal LVE) and tricuspid (mild TR, no RAE or RVE) valves. ACVIM consensus stage B1. (cardiology report July 2019) 2. Borderline Pulmonary hypertension. (cardiology report July 2019)  
Abnormal PE/Chem/CBC/UA Results: Elevated SDMA 24, Cre 1.8, BUN 36 (dec 17th) Elevated SDMA 15, Cre 1.9, BUN 46 (November 29th) Low T4 (0.7) (Nov 29th) BP systolic average 140mm/Hg Grade 4/6 systolic left apical heart murmur.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

The echocardiogram in this patient demonstrated normal **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. There was slight prolapse of the anterior mitral valve leaflet noted. 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). 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.

**IMAGING PERFORMED BY**

Dr. Mandeville

**HOSPITAL NAME**

Bettervet

**REFERRING VET**

Dr. Mandeville

**INVOICE**

97459

**DATE**

12/20/21

CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
<b>CARDIAC PARAMETERS</b>	<b>VMAX</b> (m/s)	<b>VMAX</b> (m/s)	(Boon method)	(Heart Base; Swe)	(%)	(%)	(cm)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
<b>PATIENT</b>			1.15	1.4	34	65	0.1
CANINE	HR	AV	PV	BODY WEIGHT	LA	LVIDd	LVIDs
<b>CARDIAC PARAMETERS</b>	(BPM)	<b>VMAX</b> (m/s)	<b>MAX</b> (m/s)		2D short axis Base view (cm)	Avg; 2D and m-mode short axis (cm)	Avg; 2D and m-mode short axis (cm)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6				
<b>PATIENT</b>			0.8	13 lbs	2.2 max	2.5	



**PATIENT**

**ULTRASONOGRAPHIC FINDINGS**

Eden Duong

Stage B1 valvular disease.

**SPECIES**

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Canine

There was no evidence of volume overload.

**BREED**

The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflor maintenance or similar protocol if anesthesia is desired. Blood pressure recommended if not already performed and target white coat negative systolic pressure of < 160 mmHg. If higher than this ACE-inhibitor is suggested to reach this level. Recheck echocardiogram is recommended in 6 months, earlier if murmur grade increases or clinical signs initiate.

Chihuahua

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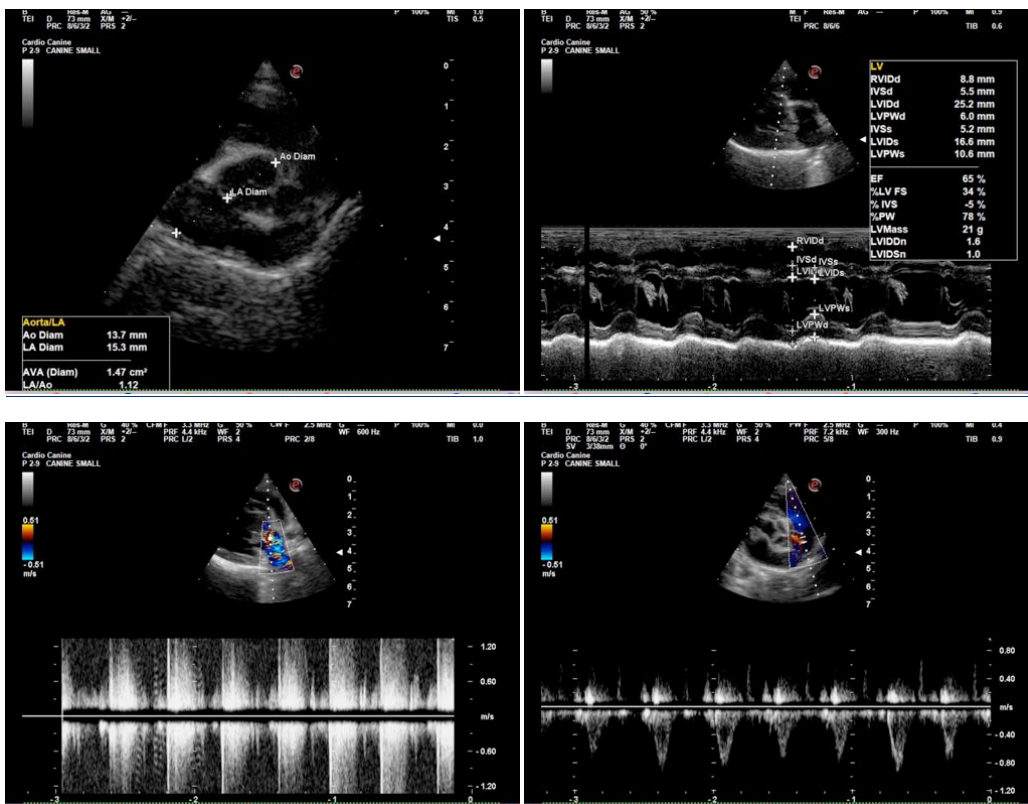
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**PATIENT**

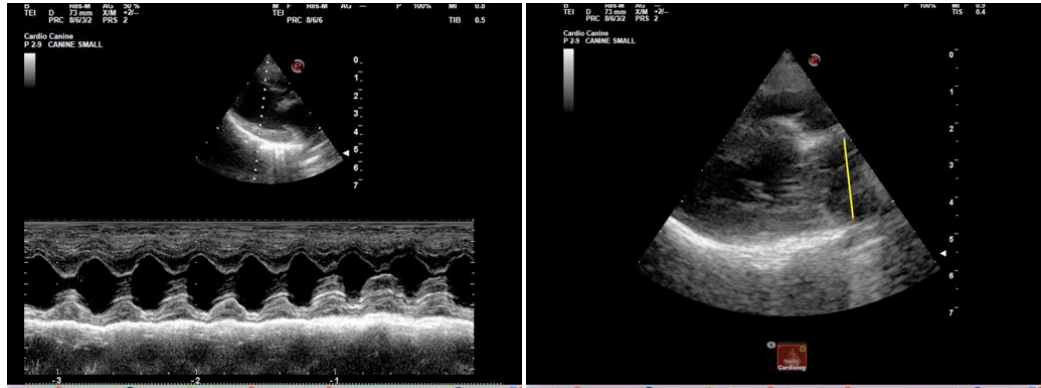
Eden Duong

**SPECIES**

Canine

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**SEX**

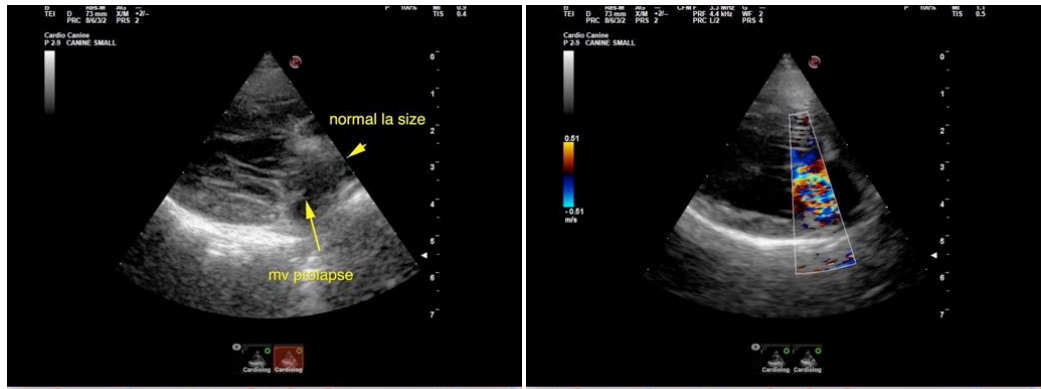
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
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