



## PATIENT

Oakley Somers

## SPECIES

Canine

## BREED

Maltese/Yorkie

## SEX

Neutered Male

## AGE

7 Years

## WEIGHT

Not Provided

## PRESENTING CLINICAL SIGNS

History: Grade III/VI systolic heart murmur left chest. Coughing/gagging for several weeks. Not responsive to antibiotics. No current meds.

Abnormal PE/Chem/CBC/UA Results:

## 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	5.4	4.3	2.45	2.4	45.1	76.4	0.41
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	159	1.2	1.0	--	5.0	4.7	--

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Jessica Miller

## HOSPITAL NAME

East Plane AH

## REFERRING VET

Dr. Rosen

## INVOICE

12563

## DATE

11/16/21

## Cardiac Presentation

The echocardiogram for this patient presented moderately to severely excessive **left atrial size** expressed both in the LA/AO and LA max measurements. Deviation of the intraatrial septum toward the right atrium is indicative of elevated left atrial pressure was present. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis and without overt evidence of valvular prolapse or chordae tendineae rupture. Doppler indicated measurable primarily eccentric insufficiency. The **left ventricle** presented thicknesses with linear contour with significant increased left ventricle 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 vegetative thickening with valvular insufficiency noted on color doppler assessment. 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 evidence of free pleura fluid was present while the possibility of scant pericardial free fluid (although not definitive) is possible. No echographically detectable evidence of infiltrative disease or evidence of heart base masses were visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

## ULTRASONOGRAPHIC FINDINGS



**PATIENT**

Oakley Somers

- Chronic mitral valve disease with significant LA/LV enlargement (ACVIM Stage C)
- Moderate to severe concurrent pulmonary hypertension based on estimated pulmonary pressure gradient (approximately 73 mm HG)

**SPECIES**

Canine

- Possible yet not definitive scant pericardial effusion- no overt cardiac masses

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The cause of the murmur is secondary to chronic degenerative valvular changes with both secondary mitral valve and tricuspid valve insufficiency. The significantly elevated left atrium and left ventricle indicate that the risk of current decompensation is elevated while continued risk of complication going forward even with medical therapy is high.

**SEX**

Neutered Male

In the absence of documented heart worm disease or chronic lower airway disease, the underlying cause of pulmonary hypertension is often not obvious or misunderstood yet in this case a contributing factor to pulmonary hypertension may be left heart volume overload. Three-view chest radiographs are recommended to assess for concurrent signs of lower airway disease.

**AGE**

7 Years

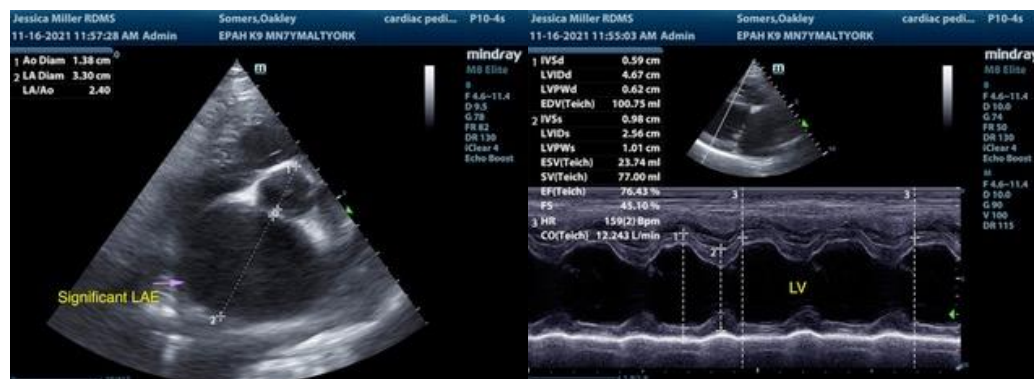
Given this presentation, cardiac medications are indicated with assessment of clinical response and monitoring of resting respiration rate. Pimobendan at 0.3 mg per kg PO BID, Lasix/Spiroonolactone combination both at 1-2 mg per kg PO BID as well as sildenafil at 1 mg per kg PO BID recommended. Antitussive medication (i.e., hydrocodone) may be beneficial. Monitoring of renal parameters and systemic blood pressure as well as baseline ECG assessment suggested. As needed oxygen therapy could be considered if clinically indicated. Recheck echocardiogram suggested in 4-6 weeks or sooner if continued clinical signs consistent with either left heart decompensation or clinical pulmonary hypertension are noted. Guarded long term prognosis.

**WEIGHT**

Not Provided

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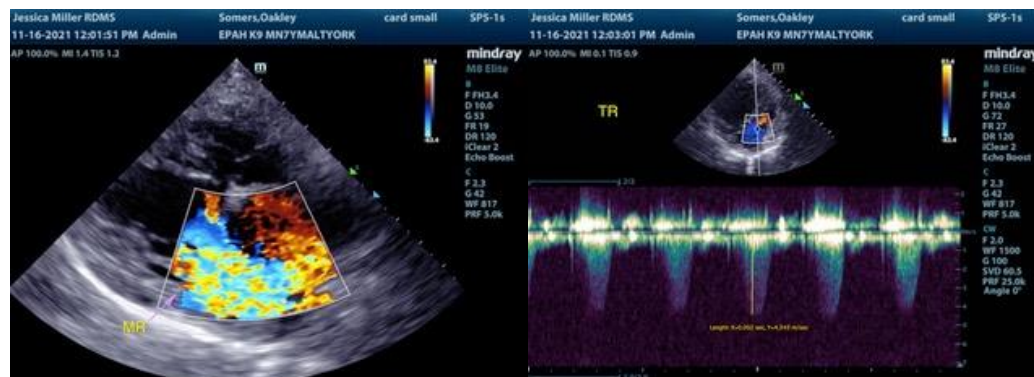
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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