


**PATIENT PRESENTING CLINICAL SIGNS**

Max Grant History: Severe progressive cough, open mouth breathing, hyperventilation. Possible grade 4/6 heart murmur when can hear through the breathing and hacking.

**SPECIES ECHOCARDIOGRAM FINDINGS**

Canine 2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Moderate mitral regurgitation with severe left atrial dilation. Mild LV dilation with hyperdynamic myocardial function. The tricuspid valve appears thickened with mild TR. Velocity consistent with moderate pulmonary hypertension. Mild right atrial and ventricular dilation. The pulmonic and aortic valves are normal in morphology and mobility. Normal aortic and pulmonic outflow velocities with laminar flow. Mild MPA dilation. No AI or PI. No pericardial or pleural effusion noted. No obvious cardiac masses.

**BREED**

Cockapoo

**SEX**

Male Neutered

**CARDIAC CHART**
**AGE**

12 years

**WEIGHT**

48.2lbs

**INTERPRETED BY**

 Maggie Machen Lamy,  
 DVM DACVIM  
 (Cardiology)

**IMAGING PERFORMED BY**

Crystal Hill, RVT

**HOSPITAL NAME**

 St Catherines Animal  
 Hospital

**REFERRING VET**

Dr. Boctor

**INVOICE**

23821

**DATE**

4/21/22

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	NM	3.5	1.5	2.2	47	79	0.38
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	140	1.7	NM	21.9	3.8	4.7	2.5
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is high. Moderate pulmonary hypertension is noted, which may be due to a combination of chronic LA pressure elevation and airway disease. No additional issues are identified.

The reported history presents a highly unstable patient with respiratory signs. CHF as well as respiratory disease are both possible in this case and it is difficult to know which to treat in the acute phase. CHF is a radiographic diagnosis that can only be supported by ultrasound. **Highly recommend baseline chest radiographs with a Radiologist review to determine if CHF is present.** See medication recommendations below.



**PATIENT**

Max Grant

Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Cough suppression to improve QOL can also be considered (hydrocodone, 0.2-0.4mg/kg up to q4-6h PRN) for any residual mechanical cough in the face of normal sleeping respiratory rates. The average survival time of canine patients with active pulmonary edema is 8-9 months on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

**SPECIES**

Canine

**BREED**

Cockapoo

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for acute progression of the cough, labored breathing, exercise intolerance or collapse episodes in the future.

**SEX**

Male Neutered

**PLAN**

Highly recommend baseline CXR with a Radiologist review to determine if CHF is present. If confirmed, institute Furosemide 1-2mg/kg PO q12h. If respiratory disease is the likely cause, consider board-spectrum antibiotic therapy, etc. as dictated by the CXR results. Regardless, recommend the following medical support: institute Pimobendan 0.3mg/kg PO q12h. Institute Spironolactone 1-2mg/kg PO q12h. Institute ACE-I 0.5mg/kg PO q12h. Sildenafil is only warranted if exertional dyspnea or collapse are noted in the future.

**AGE**

12 years

**WEIGHT**

48.2lbs

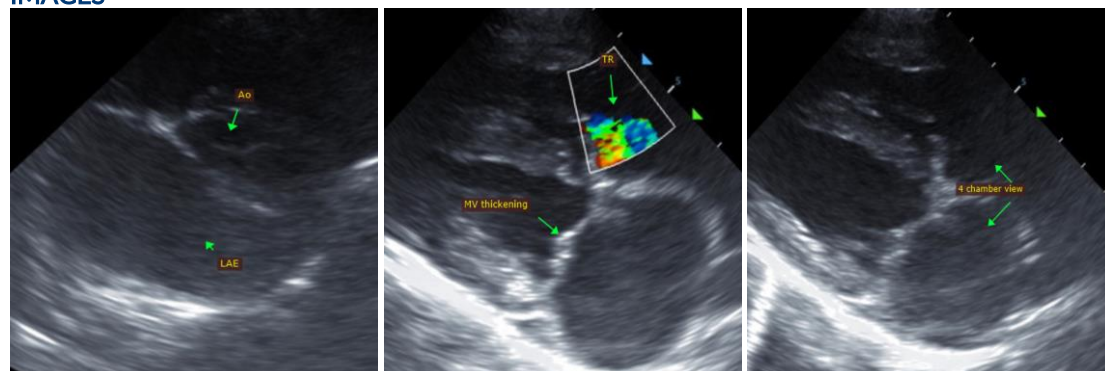
Monitor SRRs at home. Monitor renal values in 10-14 days, then every 3-4 months while on diuretics. Consider hydrocodone if needed for QOL. If patient exhibits exertional syncope or dyspnea Sildenafil may become warranted in the future.

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM DACVIM  
(Cardiology)

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of associated clinical signs occurs in the interim.

**IMAGES**



**IMAGING PERFORMED BY**

Crystal Hill, RVT

**HOSPITAL NAME**

St Catherines Animal Hospital

**REFERRING VET**

Dr. Boctor

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.

**INVOICE**

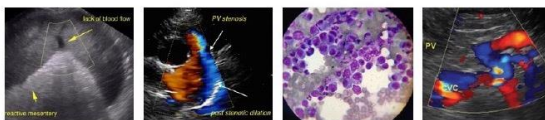
23821

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

**DATE**

4/21/22

Maggie Machen Lamy, DVM  
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)



**PATIENT** info@sonopath.com

Max Grant

**SPECIES**

Canine

**BREED**

Cockapoo

**SEX**

Male Neutered

**AGE**

12 years

**WEIGHT**

48.2lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM DACVIM  
(Cardiology)

**IMAGING  
PERFORMED BY**

Crystal Hill, RVT

**HOSPITAL NAME**

St Catherines Animal  
Hospital

**REFERRING VET**

Dr. Boctor

**INVOICE**

23821

**DATE**

4/21/22