

PATIENT

Daphne Nelson

SPECIES

Canine

BREED

Japanese Chin

SEX

Spayed Female

AGE

10 Years

WEIGHT

6.6 kg

INTERPRETED BY

Camden Rouben DVM,
DACVIM (Cardiology)

IMAGING PERFORMED BY

Dr. Ethan Bloomer

HOSPITAL NAME

Echosound Veterinary
Mobile Imaging
Services

REFERRING VET

Dr. Sarah Miller

INVOICE

16287

DATE

05/15/26

PRESENTING CLINICAL SIGNS

Patient has a history of a long-term heart murmur that has been managed on Pimobendan and Enalapril. The patient presented in late April for coughing and some labored breathing that was worse after exercise. On exam, the patient had a Grade 5/6 systolic heart murmur, an expiratory wheeze, and no overt crackles. Radiographs showed a VHS of 12, significant left atrial enlargement, and some suspect pulmonary edema. The patient was started on Lasix at 12.5 mg (1.9 mg/kg) SID for suspect CHF and has been on this dose since then (~2 weeks). The owner reports the patient is still coughing but much less than before and she otherwise seems to be doing much better.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

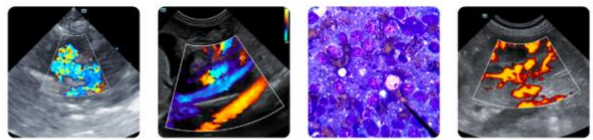
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	5.33	2.1	2.05	2.56	55.91	87.59	0.18
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	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	NM	1.55	0.83	6.6	--	2.98	1.31

Cardiac Presentation

Based off of the overall images provided, the mitral valve leaflets are significantly thickened with moderate to severe mitral regurgitation and multiple regurgitation jets. There's moderate prolapse of the anterior leaflet of the mitral valve. Left atrial size is moderately increased. Left ventricular internal dimensions during diastole are increased and the systolic function is preserved in the face of mitral regurgitation. There is normal right atrial size with mild tricuspid regurgitation. There is mild prolapse of the tricuspid valve leaflets and thickening. No evidence of significant pulmonary hypertension based on the tricuspid regurgitation velocity. The right ventricle subjectively appears normal in structure and function. The aortic and pulmonic valves have normal morphology and the corresponding outflow velocities are within normal limits. There's no evidence of pulmonic or aortic insufficiency. The aorta appears normal. The pulmonary artery and associated branches appear normal. There's no evidence of pleural effusion, pericardial effusion, or intracardiac masses.

ULTRASONOGRAPHIC FINDINGS

- Degenerative mitral valve disease ACVIM stage C.



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Based off of the overall patient history, this particular patient should be on Vetmedin at 0.25 to 0.3 mg/kg by mouth at least every 12 hours, and enalapril at 0.3 to 0.5 mg/kg by mouth every 12 hours. If the patient's resting respiratory rate and effort have significantly improved from abnormal to normal based off of the furosemide at the current dose, then that should be continued.

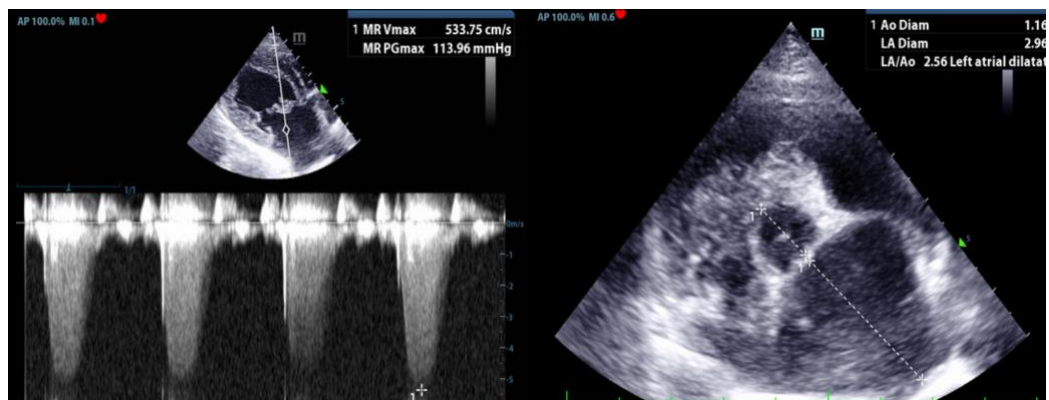
Repeat thoracic radiographs are warranted to make sure that the previously suspected pulmonary edema has resolved. If it hasn't resolved, I would consider increasing the frequency from SID to BID. Anytime a patient is on enalapril and Lasix, a repeat renal panel evaluating the overall important kidney values and blood electrolytes should be evaluated a week after starting furosemide, and then every three to four months thereafter.

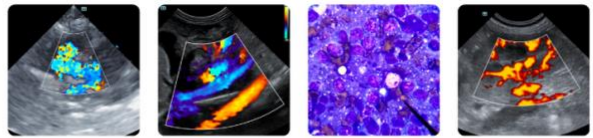
A blood pressure should be performed in this particular patient. If the patient was truly noted to have congestive heart failure, then spironolactone at 1-2 mg/kg by mouth once a day should also be started. If the patient continues to cough even in the face of congestive heart failure medication, then additional radiographs should be performed to evaluate potentially the cause of the cough and rule out bronchomalacia or dynamic lower upper airway obstruction. In the case that this is the cause of the cough, then I would consider antitussive medications such as hydrocodone, diphenoxylate, atropine, Cerenia as an initial start.

I would recommend a recheck echocardiogram in six months. The patient should be closely monitored for increased resting respiratory rate and effort, and if the owner is not already doing so, this should be assessed every day and make sure that the breathing rate and effort is less than 35 to 40 breaths per minute. If the breathing rates are increasing, then repeat thoracic radiographs are recommended.

If the patient has truly been in heart failure, elective anesthetic procedures are no longer warranted. Medications like dexmedetomidine, other alpha-2 agonists, and ketamine are best avoided.

If the patient absolutely needs IV fluids, judicious perioperative fluids are recommended due to the significant increase in the left atrial size.





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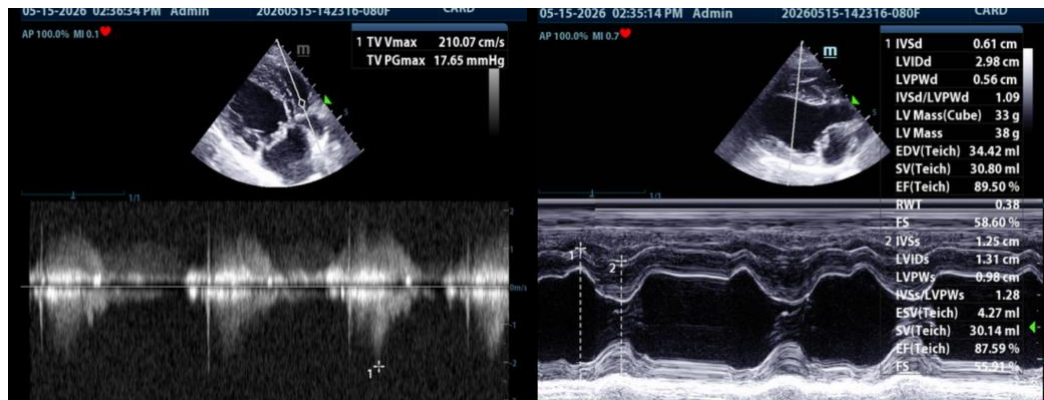
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Camden Rouben DVM, DACVIM (Cardiology)

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