



# Coastal Veterinary Cardiology, LLC

Maggie Machen Lamy  
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Study Date: 6.16.23  
Sonographer: Lisa Bancroft, DVM  
Clinic Name: Highlands Animal Hospital

## Patient Information

Patient name: Boo Boo Brees

Signalment: Canine, Cavalier, Female Spayed, 11 years, 25lbs.

Provided history: Went to ER last weekend and began treatment for CHF. On grain-free diet. Coughing.

-Current medications: Vetmedin, Benazepril, Lasix.

-Radiographs: Marked cardiomegaly and air bronchograms.

## Radiographic Findings \*NOTE: Images submitted for supplemental cardiac information only.

Marked cardiomegaly, concern for CHF.

## Echocardiogram Findings

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Normal MR velocity. Moderate LV dilation with hyperdynamic myocardial function. The tricuspid valve appears mildly thickened with mild TR. Mildly elevated velocity. Mild right heart enlargement. The pulmonic and aortic valves are normal in morphology and mobility. Normal aortic and pulmonic outflow velocities with laminar flow. No AI and trace PI. Scant pericardial effusion. No pleural effusion noted. No obvious cardiac masses.

### 2-Dimensional Measurements

Ao diam (cm)	1.3
LA diam (cm)	3.0
LA:Ao (Swe)	2.3
IVS thickness (cm)	0.8
LVID diastole (cm)	5.0
PW thickness (cm)	0.9
LVID systole (cm)	2.7
FS (%)	42

### Doppler Measurements

PV Vmax (m/s)	1.7
AoV Vmax (m/s)	1.6
MR Vmax (m/s)	5.5
TR Vmax (m/s)	2.9
TR PG (mmHg)	33

## Clinical Interpretation and Recommendations

The cause of the murmur is chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Early pulmonary hypertension is noted, which is likely secondary to chronic LA pressure elevation. No additional issues are identified. No evidence of diet-related cardiomyopathy at this time.



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In light of the history and severity of disease on echocardiogram, the diagnosis of congestive heart failure is supported and continued medications are warranted lifelong as below. Scant pericardial effusion is present, which may be residual or may reflect an alternative pathology, such as a left atrial tear. This is less likely in the absence of syncope and is more consistent with right-sided congestion. Regardless, the treatment is the same.

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.

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.

Elective anesthesia, fluid or steroid therapy should be avoided lifelong.

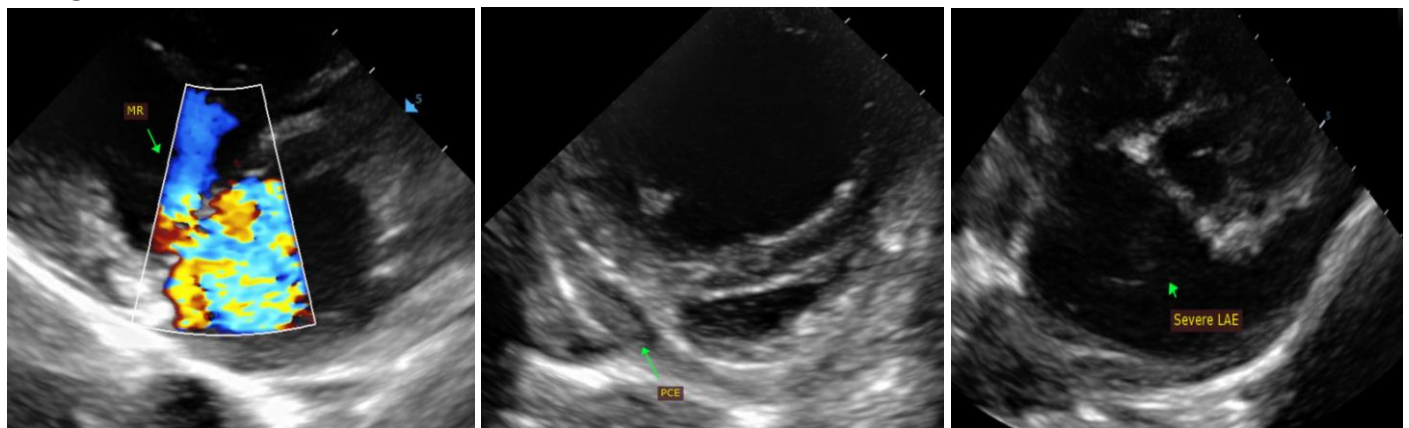
### PLAN

Baseline BP recommended. Continue Pimobendan 0.3mg/kg PO q12h. Continue Lasix 1-2mg/kg PO q12h. Continue ACE-I 0.5mg/kg PO q12h, pending BP >130mmHg. Institute Spironolactone 1-2mg/kg PO q12h.

Monitor SRRs at home. Monitor renal values and BP every 3-4 months while on diuretics. Consider hydrocodone if needed for QOL.

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

### *Images*





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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 at: [drmachenlamy@gmail.com](mailto:drmachenlamy@gmail.com) (veterinarian use only please).

*Maggie Machen Lamy, DVM*

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