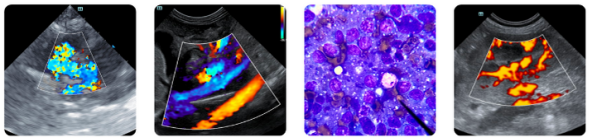


PATIENT

Pokey Ward

SPECIES

Canine

BREED

Cavalier King Charles Spaniel

SEX

Spayed Female

AGE

13 Years

WEIGHT

20.8

INTERPRETED BY

James Wood, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Graham Sager-Gellerman, DVM

HOSPITAL NAME

Back Bay VC

REFERRING VET

Katherine Wheeler, DVM

INVOICE

37171

DATE

5/22/26

PRESENTING CLINICAL SIGNS

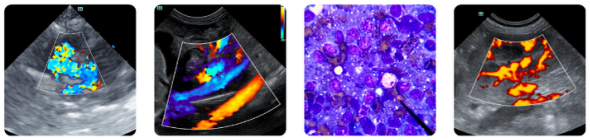
History: To evaluate the following condition: Recheck echo - severe mitral and moderate tricuspid regurgitation. Recheck echo. Grade 5/6 heart murmur.

Current Medications (Name, Dose, Frequency): Ursodiol 125mg SID, Telmisartan 10mg SID, Pimobendan 3.75mg BID, Tacrolimus 0.03% OU TID, Apoquel 4mg SID, Visbiome 1 cap SID Psyllium, Cytopoint.

Abnormal PE/Chem/CBC/UA Results: UA 4/8/26: 1.036, pH 5.0, 1+ protein, UPC 0.3 Fecal 4/8/26: neg CXR 3/30/26: Moderate left heart enlargement, progressed from the prior study. The cough may be secondary to the enlarging left atrium. Normal geriatric lung. No current signs of cardiac decompensation. Mild liver enlargement, similar to the prior study. This is a nonspecific change and differentials include vacuolar hepatopathy, congestion, inflammation and neoplasia. Focal chronic degenerative disc disease. Senior Panel 3/27/26: CBC: RBC 5.77, Hct 37.6, Hgb 12.7, MCH 22, retic Hgb 23.1, eosin 0.108, remainder NSFChem: K+ 5.6, Na:K 26, Cl 106, ALP 366, lipase 525T4 2.24DX neg.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	**LA long axis**	**LAmaxN**	**Ao long axis**	**LA/AO (Heart Base; Swe, short axis)**	**LA/AO long axis**	**LVIDd**	**LVIDdN**
NORMAL PARAMETER		<1.57		<1.6	<2.5		<1.7
PATIENT	4.38	2.2	--	2.2	--	4.85	2.4
CARDIAC PARAMETERS	**Body Weight (kg)**	**AV VMAX (m/s)**	**PV MAX (m/s)**	**MR VMAX (m/s)**	**TR VMAX (m/s)**	**FS (%)**	**LVIDsN**
NORMAL PARAMETER		0.7-1.7	0.7-1.6			22 - 49%	<0.9
PATIENT	9.45	1.5	2.3	5.24	2.58	40.6	1.19
CARDIAC PARAMETERS	**HR (bpm)**	**MV E (m/s)**	**MV A (m/s)**	**MV E/A (m/s)**	**EF (%)**	**IVSdN**	**LVFWdN**
NORMAL PARAMETER						<0.6	<0.6
PATIENT	94	1.2	1.04	1.17	86.3	--	--



PATIENT

Pokey Ward

SPECIES

Canine

BREED

Cavalier King Charles Spaniel

SEX

Spayed Female

AGE

13 Years

WEIGHT

20.8

INTERPRETED BY

James Wood, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Graham Sager-Gellerman, DVM

HOSPITAL NAME

Back Bay VC

REFERRING VET

Katherine Wheeler, DVM

INVOICE

37171

DATE

5/22/26

Cardiac Presentation

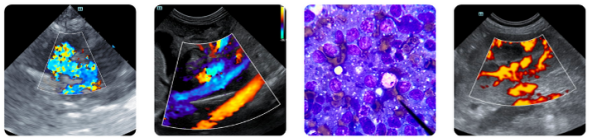
The mitral valve leaflets are severely thickened with severe eccentric and posteriorly directed mitral valve insufficiency. Leaflet prolapse is not identified. The left atrium is severely dilated. The left ventricle is severely dilated. Normal global left ventricular systolic function. There is normal right atrial size with mild tricuspid regurgitation. There is no prolapse of the tricuspid valve leaflets and no evidence of pulmonary hypertension based upon tricuspid regurgitant velocities. The right ventricle subjectively appears normal in structure and function. The transpulmonary flow velocity is mildly increased. The pulmonary artery is moderately dilated. The aortic valve has normal appearance and motion, and the corresponding outflow velocities are within normal limits. There is no evidence of pulmonary or aortic valve insufficiency. The aorta appears normal. There is no evidence of pleural effusion, pericardial effusion, or intracardiac masses. Despite the pulmonary artery dilation, there is no indication of clinically irrelevant pulmonary hypertension based on the lack of morphologic changes to the right heart.

ULTRASONOGRAPHIC FINDINGS

- Myxomatous mitral valve disease, ACVIM stage B2 (severe LA and LV enlargement)
- Moderate tricuspid regurgitation
- Pulmonary artery dilation
- Cough- suspect noncardiogenic

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The echocardiogram showed evidence of myxomatous mitral valve disease. Based on this echocardiogram, there is severe left atrial and left ventricular enlargement. The patient would benefit from starting pimobendan (if not already started – target dose at least 0.3mg/kg q12 at this stage) to slow the progression of this disease and delay the onset of CHF. Though there are no reported clinical signs of CHF at this time based on the provided history and examination, thoracic radiographs are recommended to fully rule out CHF, and obtain a baseline of the patients pulmonary parenchyma for comparison should clinical signs develop in the future. If there is concern clinically or radiographically for CHF, furosemide should be started at ~2mg/kg PO q12hr pending assessment of renal function. If so, recheck thoracic radiographs and renal panel with electrolytes in 2 weeks to assess for a response. Because the patient is on an angiotensin receptor blocker, this is recommended to be continued unchanged. Consider spironolactone at a dose of 1-3 mg/kg, provided normal renal function. Though the evidence for RAAS blockade prior to CHF is limited, this patient is likely to benefit based on the severe remodeling. A blood pressure is also recommended. If the systolic BP >160mmHg after ACEi therapy, amlodipine should be considered. Elevated BP worsens the mitral regurgitant fraction and leads to faster progression. Recheck in 2 weeks if ACEi/spironolactone and/or furosemide are started for a recheck renal panel with electrolytes and a blood pressure. Recheck every 6 months or sooner if concerns arise for a recheck echocardiogram to monitor for progression, BP and thoracic radiographs (strong recommendation if there is a new cough or increase in the RR).



PATIENT

Pokey Ward

SPECIES

Canine

BREED

Cavalier King Charles Spaniel

SEX

Spayed Female

AGE

13 Years

WEIGHT

20.8

INTERPRETED BY

James Wood, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Graham Sager-Gellerman, DVM

HOSPITAL NAME

Back Bay VC

REFERRING VET

Katherine Wheeler, DVM

INVOICE

37171

DATE

5/22/26

Monitoring

It is very important to catch any clinical signs concerning for emerging CHF as early as possible. The client should be closely monitoring and ideally tracking the sleeping respiratory rate. The sleeping RR should be between 10-30 breaths per minute or less (ideally in the teens or low 20s). **If the resting RR is trending upward**, consistently>35/min while resting/sleeping AND/OR there is a new or progressive cough, the patient should be seen urgent for evaluation to determine if CHF is developing. *RECHECK ASAP for thoracic radiographs if there is a new cough or increase in RR to detect early CHF and avoid ER presentation**

Salt Restriction

Moderate sodium restriction may be beneficial in managing this stage of cardiac disease. High-salt treats or diets should be avoided. If interested, further information on moderate sodium restricted diets for dogs with advanced cardiac disease can be found at: https://heartsmart.vet.tufts.edu/nutrition/.

Anesthesia

There is a moderately to severely increased risk to anesthesia given the underlying cardiac disease. Anesthesia should only be pursued for medically necessary procedures with client understanding of the risks.

On top of the increased intraoperative risks (hypotension, hypoventilation, hypothermia) with cardiac disease, there is an increased risk of precipitating CHF. With this understanding, anesthesia can be pursued pending normal labwork, with appropriate precautions for strictly necessary procedures. Baseline thoracic radiographs are recommended within 1-2 months of anesthesia, not only to rule out CHF, but to serve as a baseline for comparison if a new cough or other respiratory signs develop after anesthesia. Pimobendan can be given three times daily for 2-3 days prior to and following anesthesia to support cardiac function. The morning dose of any ACEi should be skipped the day of anesthesia. Recommendations for pre-operative sedation include an opiate (such as butorphanol) combined with a benzodiazepine (such as midazolam or diazepam). It is recommended to avoid alpha 2 agonists, as these agents can cause vasoconstriction and worsen MR, exacerbating left atrial hypertension. These effects persist for hours even after reversal. Etomidate or alfaxalone are preferred induction agents. Propofol can be considered for induction; however, is less preferred to alfaxalone or etomidate. Ketamine should ideally be avoided. Atropine should be used as needed for blood pressure support when bradycardia is present during periods of hypotension.

Full cardiac precautions should be taken with regards to monitoring (ideally CO2, SpO2, ECG, and BP monitoring) and judicious IV fluid administration (avoid volume overload or underload/hypotension – 2-3 mL/kg/hr surgical fluid rate is recommended). All other methods of blood pressure support should be utilized **instead of fluid boluses** (i.e. reduce inhalant/use MAC reducing agents, consider anticholinergics if bradycardia + hypotension), and the use of parenteral inotropes should be

PATIENT

Pokey Ward

SPECIES

Canine

BREED

Cavalier King Charles Spaniel

SEX

Spayed Female

AGE

13 Years

WEIGHT

20.8

INTERPRETED BY

James Wood, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Graham Sager-Gellerman, DVM

HOSPITAL NAME

Back Bay VC

REFERRING VET

Katherine Wheeler, DVM

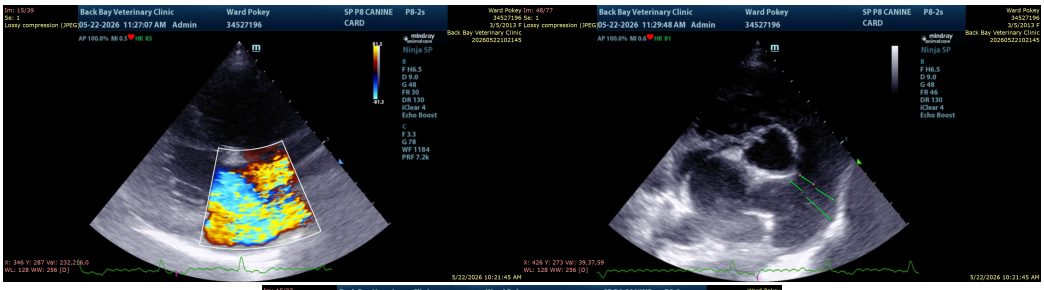
INVOICE

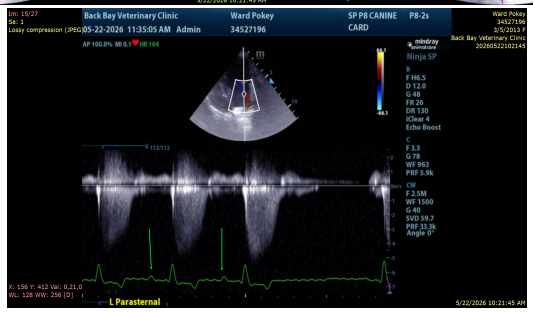
37171

DATE

5/22/26

considered (i.e. dobutamine or dopamine).





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.

James Wood, DVM, DACVIM (Cardiology)

info@SonoPath.com