



PATIENT PRESENTING CLINICAL SIGNS

Chico Gulick History: Coughing, HM noted III/VI on exam 6/13/22. No current meds.

SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART

Canine

BREED

Chihuahua

SEX

Neutered Male

AGE

8 Years

WEIGHT

15 Pounds

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	<1.3	28-40	40-100	<0.6
PATIENT	5.95	2.13	1.86	2.02	52	84	0.15
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				
PATIENT	183	1.06-PW 1.34-CW	0.73	6.82	3.04	3.81	1.81

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Warren AH

REFERRING VET

Dr. Nicole

INVOICE

16220

DATE

6/21/22

Echocardiographic findings

Mitral valve

- Mild (posterior) to moderate (septal) myxomatous degeneration of both leaflets.
- Moderate prolapse of the septal leaflet.
- Moderate to marked mitral regurgitation.
- Marked left atrial enlargement
- Marked left auricular enlargement.
- Rounding of the interventricular septum, i.e. left ventricular enlargement is present
- Moderate increase of LA: Ao ratio
- LA normalized for BW (LAN = 1.6); marked enlargement
- LVIDd normalized for BW (LVIDND = 2.2); marked enlargement
- LVIDs normalized for BW (LVIDNs = 0.99); within normal limits (WNL)
- Exuberant contractility, decreased ejection fraction

Aortic valve

- No abnormalities



PATIENT

- No aortic insufficiency

Chico Gulick

Tricuspid valve

- Mild myxomatous degeneration of the tricuspid valve
- Very mild prolapse of posterior leaflet.
- Moderate tricuspid regurgitation.
- No right ventricular or atrial enlargement.

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Pulmonic valve

- No abnormalities
- Trivial pulmonary insufficiency.
- Main pulmonary artery within normal limits.

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Other

- No signs of pericardial or pleural effusion
- No evidence of pulmonary edema.
- No obvious signs of a mass.

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ULTRASONOGRAPHIC FINDINGS

- Myxomatous degeneration of the mitral (mild to moderate) and tricuspid (mild to moderate) valves, ACVIM stage B2, with marked left atrial and left ventricular enlargement.
- Chico's echocardiographic results meet the criteria from the EPIC study to begin treatment with pimobendan (Vetmedin) to help slow the progression of his heart disease.
- Spironolactone is also suggested, providing his renal function is within normal limits (see below).

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Other suggestions/recommendations include:

- Evaluation of blood pressure
- pimobendan (Vetmedin) at 0.25-0.30 mg/kg PO every 12 hours. Ideally, the dose should be started at 0.10 mg/kg PO every 12 hours for 3 days prior to increasing to the full dose to decrease the risk of GI side effects. Administer with a *small* amount of food to decrease nausea.
- spironolactone (0.5-1 mg/kg twice a day) has anti-fibrotic effects. This may be started approximately 5-7 days after initiation of pimobendan, i.e. ensure Chico is tolerating the pimobendan.
- Monitoring of the resting (sleeping) respiratory rate (RRR) is highly recommended once a day. The RRR should NOT EXCEED 30 breaths per minute (bpm). If the respiratory rate is greater than 30 bpm, or if there is a gradual increase (over a day or two) toward 30 bpm, the patient



PATIENT

should be evaluated immediately for congestive heart failure and the appropriate treatment initiated.

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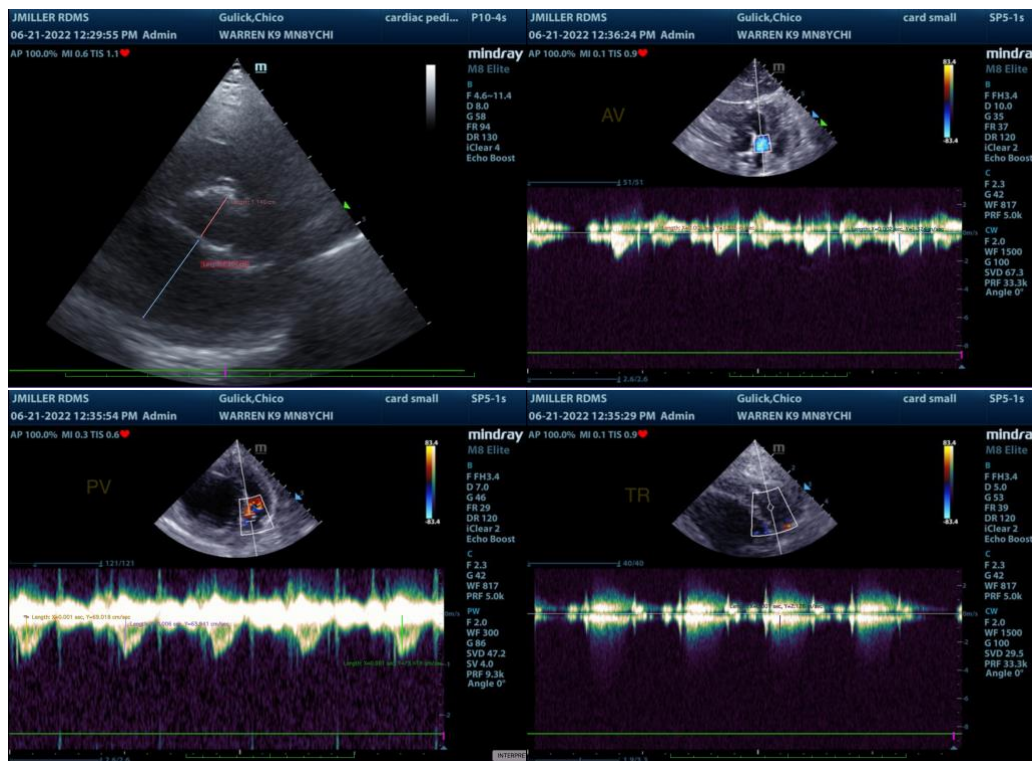
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- Other clinical signs clients should monitor for include coughing (particularly at night), fatigue, lethargy, decreased exercise tolerance (i.e., not being able to walk for as long before becoming tired, or “running out of breath” while playing, or going up and down stairs, as well as syncope (collapsing or fainting spells). Restlessness, or agitation during the night, or being unable to find a comfortable position to sleep are also very common clinical signs.
- Moderate salt restriction is suggested (between 0.4-0.5 grams/1000 kcal of food). Monitor salt content in treats.
- Blood work PCV/TS, renal profile, SDMA and arterial blood pressure, are recommended 10-14 days after initiation of spironolactone.
- Monitoring for progression of heart disease with a re-evaluation of an echocardiogram every 6 to 8 months, or sooner if clinical signs develop, is recommended.
- One should consider sending Chico home with *furosemide in case of an emergency* (1-2 mg/kg PO q12h until able to contact a veterinarian).





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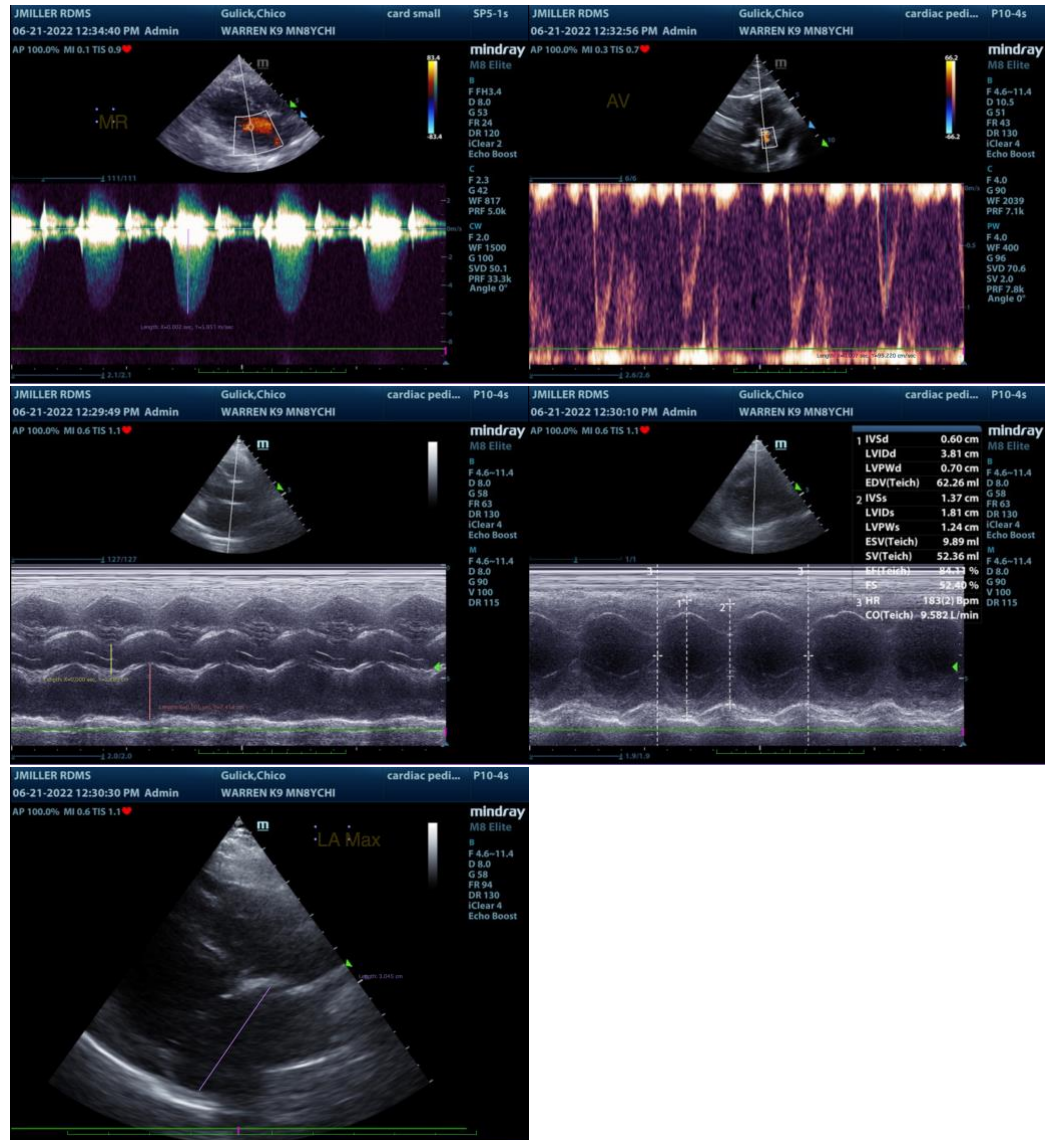
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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