



PATIENT

Scruffy Yost

SPECIES

Canine

BREED

Jack Russell Terrier

SEX

Neutered Male

AGE

14.5 Years

WEIGHT

22 Pounds

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Glen Rock VH

REFERRING VET

Dr. Scott Stekler

INVOICE

40205

DATE

8/4/22

PRESENTING CLINICAL SIGNS

Patient with two possible syncopal episodes presented today for echo. Current med: Prednisone. Patient needs a dental; assessing heart for general anesthesia.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swedish)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	1.10	1.06	NM	1.31	30	NM	0.19
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D long 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	99	1.57	1.24	10	2.62	2.42	1.70

Adapted from June Boon, Veterinary Echocardiography, 1998
Sisson D et al. JVIM 1991; 5: 232, and Jacobs et al. Am J Vet Res 1985; 46:1705

Echocardiographic findings

Mitral valve

- Moderate thickening and irregularity; consistent with myxomatous degeneration
- No prolapse.
- Marked mitral regurgitation.
- No overt left auricular enlargement.
- LA: Ao ratio: within normal limits (WNL)
- LA normalized for BW (LAN = 1.2); mild to enlargement
- LVIDd normalized for BW (LVIDND = 1.2)
- LVIDs normalized for BW (LVIDNs = 0.82); within normal limits (WNL)

Aortic valve

- No abnormalities
- No aortic insufficiency

Tricuspid valve

- Very mild thickening and irregularity; consistent with myxomatous degeneration
- No prolapse.



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- Trivial tricuspid regurgitation.
- No right ventricular or atrial enlargement.

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Pulmonic valve

- No abnormalities
- Very mild pulmonary insufficiency.

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- Main pulmonary artery within normal limits.
- Pulmonary artery - bifurcation, no abnormalities.
- Pulmonary artery: aortic ratio within normal limits.

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Other

- No obvious signs of heart worm.

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- No signs of pericardial or pleural effusion
- No evidence of pulmonary edema.
- Pulmonary veins, no abnormalities.

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- No obvious signs of a mass.

ULTRASONOGRAPHIC FINDINGS

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- Myxomatous degeneration of the mitral (moderate) and tricuspid (very mild) valves, ACVIM stage B2, with mild left atrial enlargement. All other results within normal limits
- Although the results are not suggestive of heart failure, syncope may occur if an intermittent arrhythmia occurred. However, the latter is unlikely based on the size of the left atrium.
- A vasovagal event may have also caused a syncopal episode
- The results of the echocardiogram do not meet the criteria of the EPIC study, therefore cardiac medication is not required.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Suggestions/recommendations include:

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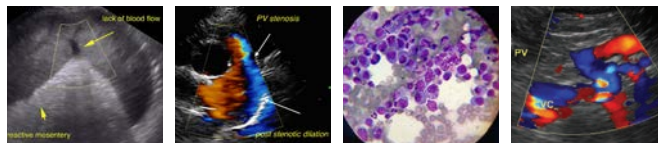
- Evaluation of arterial blood pressure; seizure activity or syncope may occur due to hypertension associated with pheochromocytomas
- Full bloodwork, including a CBC, serum biochemical profile, SDMA, a urinalysis and serum thyroxin concentration are recommended. Hypothyroidism can cause neurological signs.
- A video of the seizure activity is recommended if it recurs
- Monitoring of the resting (sleeping) respiratory rate (RRR) is recommended once a week. The RRR should NOT EXCEED 30 breaths per minute (bpm). If the respiratory rate is greater than

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30 bpm, or if there is a gradual increase (over a day or two) toward 30 bpm, Scruffy should be re-evaluated.

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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.

BREED

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- Mild salt restriction is suggested (less than 0.9 grams/1000 kcal of food). Monitor salt content in treats.
- 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.

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Example of general anesthesia protocol for a dentistry

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- Premedication with an opioid, such as hydromorphone, butorphanol, or methadone, +/- low dose of midazolam. Avoid dexmedetomidine (label indications).

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- Avoid acepromazine, atropine and glycopyrrolate. The latter two drugs should only be considered if a patient becomes bradycardic during the procedure.
- Preoxygenation for 10-15 minutes (minimum 5 minutes).
- Induction with alfaxalone, or propofol, if alfaxalone is not available. Avoid ketamine, if possible.

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- Monitor arterial blood pressure during the procedure. The mean blood pressure should be between 90 - 100 mm Hg. If the patient’s blood pressure is decreased, administer fluid boluses judiciously to avoid volume overload and congestive heart failure.

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- The intravenous fluid rate should be approximately ¼ of the DAILY maintenance requirements, or 1.75-2 ml/kg/hour to avoid fluid overload.

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- Dental blocks are *strongly* recommended to decrease MAC and the amount of isoflurane necessary, as the latter tends to cause hypotension, particularly in cardiac patients.

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- *Two shorter procedures are preferable to performing one long procedure, if the dentistry will take longer than originally expected.

- Monitoring the patient’s resting respiratory (breathing) rate twice a day for 4-6 weeks following general anesthesia is suggested to monitor for signs of decompensation of heart disease.

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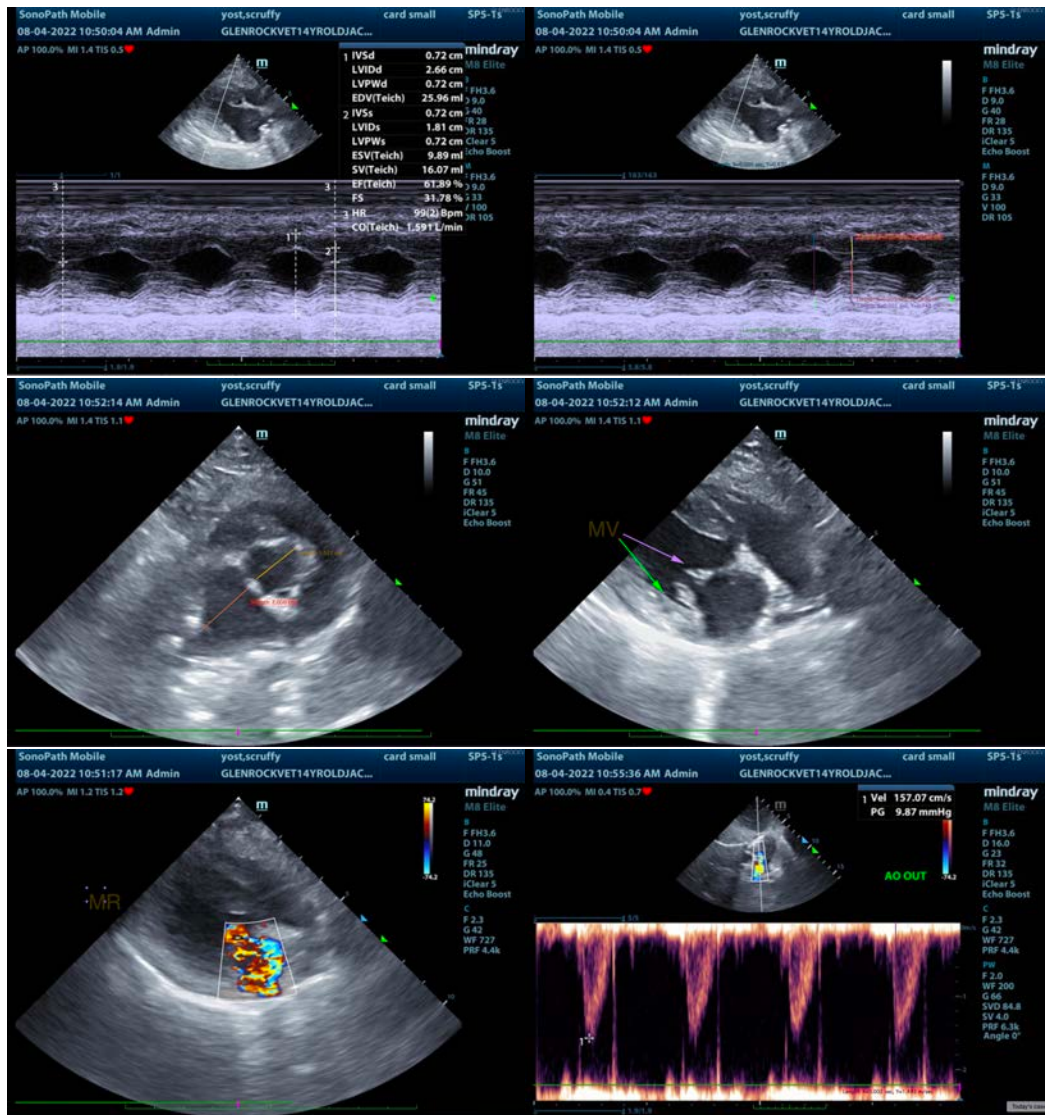
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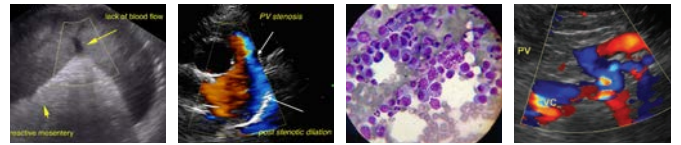
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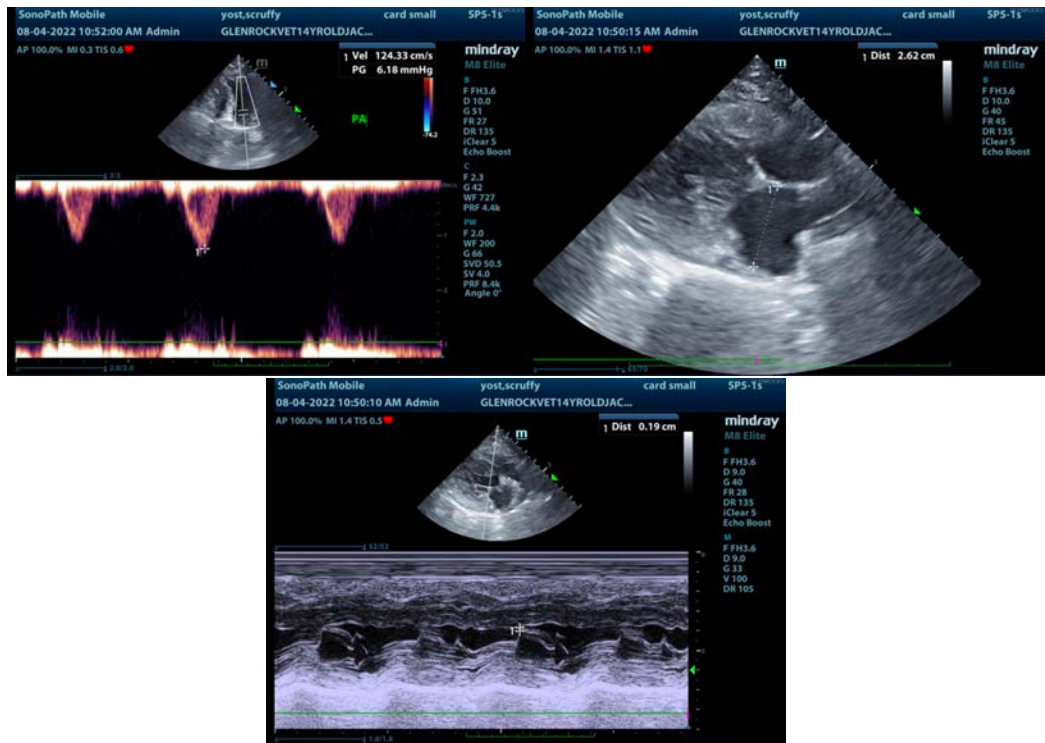
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

Lisa.Carioto@sonopath.com