

PATIENT PRESENTING CLINICAL SIGNS

PATIENT Suri Smith
Service Animal - clinically presented healthy until episode of collapse on 7/25.
Abnormal PE/Chem/CBC/UA Results: EKG normal sinus rhythm with possible intraventricular block
No pericardial effusion or peritoneal effusion. Some concern for mottled spleen. Chem 17/lytes/CBC:
SPECIES Canine
Anemia (RBC 5.16; Hct 35.4%; HgB 12.5); otherwise unremarkable PCV/TS: 36% and 5.8; cl Blood Pressure Measurements 142 doppler #5 LTL Current Medications Levothyroxine 0.3 mg BID

BREED ULTRASONOGRAPHIC EXAMINATION OF THE HEART

Labrador Retriever

SEX

Spayed Female

AGE

13 Years

WEIGHT

59.62 Pounds

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

IMAGING PERFORMED BY

Sara Hansen

HOSPITAL NAME

Balanced Vet Care

REFERRING VET

Dr. Teri Sue Wright

INVOICE

40218

DATE

8/2/22

| 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 | 1.46 | trivial | 1.17 | NM | 35 | NM | 0.15 |
| 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 | | 1.34 | 0.76 | 27.1 | 3.40 | Long 3.41 | Long 2.23 |

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

Electrocardiogram (lead II (AliveCor))



Page 2: Possible blocked P waves, with AV dissociation (P located in the T waves, causing the "notch"), i.e. two abnormal T waves visualized.

Echocardiographic findings

Mitral valve

- Mild thickening and irregularity (both leaflets); consistent with myxomatous degeneration
- Trivial prolapse of both leaflets.
- Trivial to very mild mitral regurgitation.
- Left auricle enlargement: mildly prominent



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- LA: Ao ratio: within normal limits (WNL)
- LA normalized for BW (LAN = 1.1); very mild enlargement
- LVIDd normalized for BW (LVIDND = 1.3); WNL
- LVIDs normalized for BW (LVIDNs = 0.79); WNL

Aortic valve

- No abnormalities
- No aortic insufficiency

Tricuspid valve

- Very mild thickening of septal leaflet; consistent with myxomatous degeneration
- Note, the chordae tendinae attaches to the posterior leaflet that prevents full closure of the leaflets.
- No prolapse.
- Trivial tricuspid regurgitation.
- No right atrial enlargement.
- Very mild right ventricular dilation, with flattening and paradoxical motion of the interventricular septum

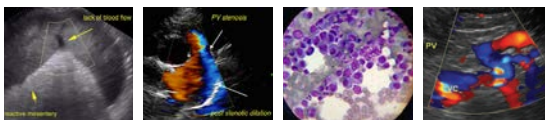
Pulmonic valve

- No abnormalities
- No pulmonary insufficiency.
- Main pulmonary artery within normal limits.
- Pulmonary artery – bifurcations do not show any abnormalities (equal size, no malformation)
- Pulmonary artery: aortic ratio
 - PA = 1.98 cm
 - Ao = 1.80 cm
 - Ratio PA/Ao = 1.1 (very mildly increased)

- Unable to evaluate for heartworm.

Other

- 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.
- There are no obvious abnormalities noted with the myocardium or endocardium.

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ULTRASONOGRAPHIC FINDINGS

- Myxomatous degeneration of the mitral (mild) and tricuspid (very mild) valves, ACVIM stage B2, with very mild left atrial enlargement. The left ventricle is within the normal reference range in diastole and systole.
- The pulmonary artery is mildly dilated; the cause for the mild dilation was not determined on today's echocardiogram.
- High index of suspicion of a mildly dilated main pulmonary artery, with paradoxical motion and flattening of the interventricular septum, suggestive of increased right ventricular pressure.
- The ECG showed two possible blocked P waves
- Extremely mild "dysplasia" of the posterior leaflet of the tricuspid valve based on its appearance, without clinical consequences.
- Any possibility of heat exhaustion?
- Evaluate diet to ensure Suri is eating a well-balanced diet containing grains.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Suggestions/recommendations include:

- A cause for Suri's syncopal episode was not determined on today's echocardiogram. The few abnormalities noted should not have caused the syncopal episode unless she experienced a sudden decrease in her arterial blood pressure or a vaso-vagal response.
- Evaluation of arterial blood pressure
- Thoracic radiographs are suggested to evaluate for pulmonary changes
- Full bloodwork, including a CBC, serum biochemical profile, SDMA, SNAP 4Dx, serum thyroxin concentration, urinalysis, +/- urine protein: creatinine ratio, are recommended.
- A Holter monitor may be required or at the very least, a 10-20 minute ECG.
- If possible, monitoring of the resting (sleeping) respiratory rate (RRR). 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, Suri should be re-evaluated.
- 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

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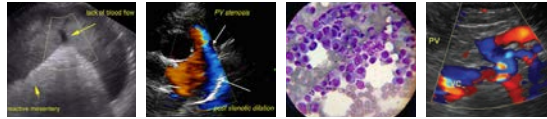
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(collapsing or fainting spells). Restlessness, or agitation during the night, or being unable to find a comfortable position to sleep are also very common clinical signs.

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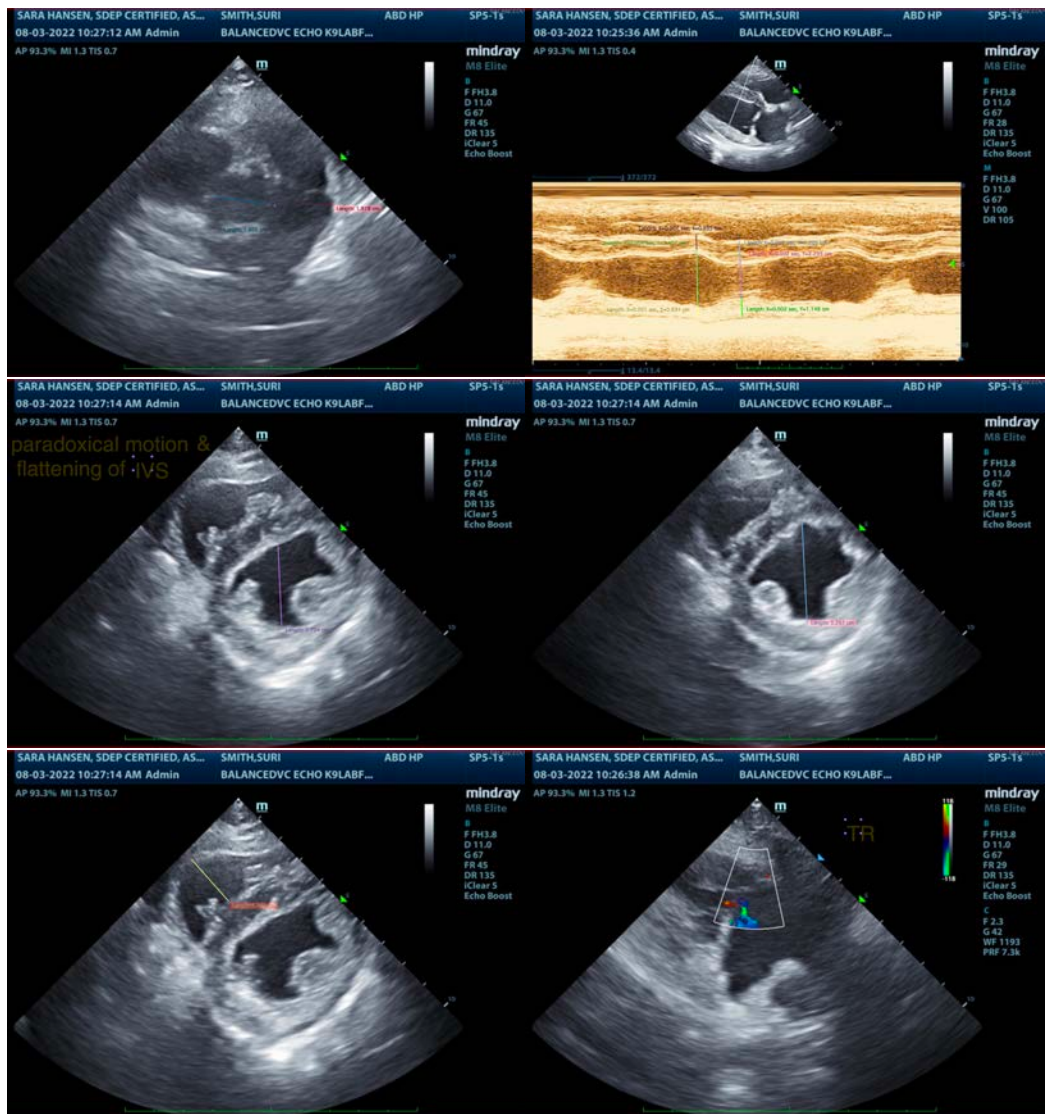
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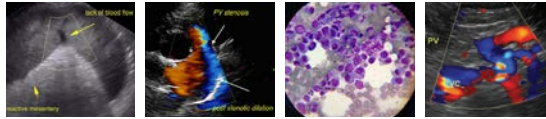
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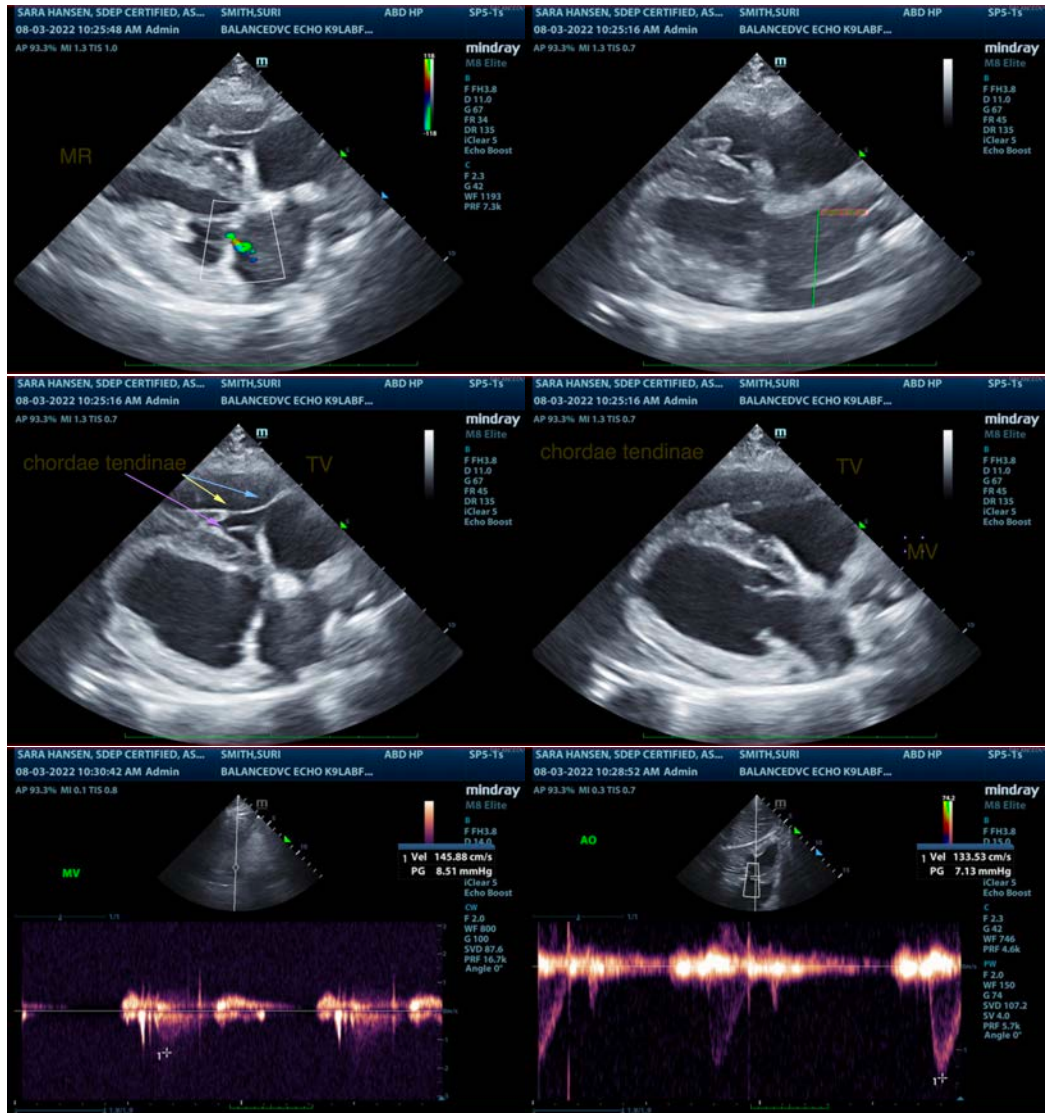
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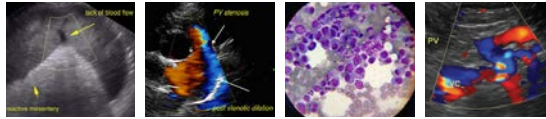
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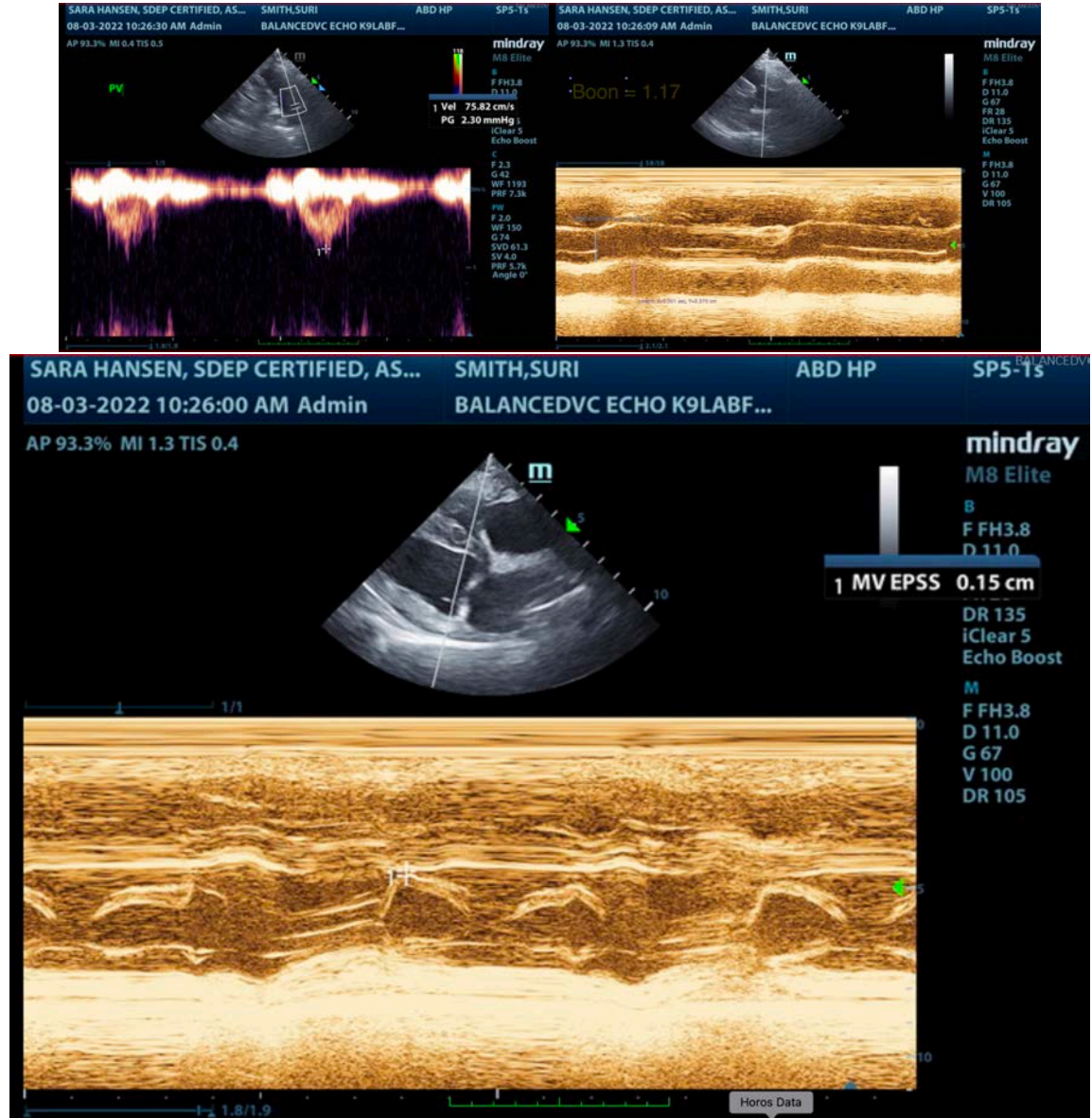
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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