

## PATIENT PRESENTING CLINICAL SIGNS

Shadow Charlton

No abnormal findings on PE

Abnormal PE/Chem/CBC/UA Results: Cardio proBNP elevated 2/2021: 298 7/2022: 637 Blood Pressure Measurements none Current Medications Revolution plus

## SPECIES

Feline

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

## BREED

DSH

## SEX

Spayed Female

## AGE

6 Years

## WEIGHT

9.3 Pounds

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm) Short axis	LVWd (cm) Short axis	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	4.23						NM
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Sisson)	LA 2D 4-chamber long axis AS to FW (Sisson) (cm)	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)	
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60	
PATIENT	1.56 = 1.6	1.37 ACVIM = 1.38	1.62	0.73	1.43	NM	
Adapted from June Boon, Veterinary Echocardiography, 1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							

## INTERPRETED BY

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

## Electrocardiogram (six lead)

Heart rate 180 bpm

Deep S wave in leads II and III (very poor criteria for possible right ventricular enlargement)

Movement artifact on some pages

Occasional notched R wave, suggestive of ischemia

Sinus rhythm up until last few beats on aVF on page 7 – high index of suspicion of blocked P waves (vs. notched T wave vs. artifact)

Blocked P waves continued on page 8 – better visualized with leads II and III, aVR, aVF

No premature ventricular or supraventricular contractions or escape beats

## Echocardiographic findings

Mitral valve

- Valve leaflets: No abnormalities
- Mitral regurgitation: Trivial
- Left atrium: No left atrial enlargement
- Left auricle: Mildly prominent
- LA: Ao ratio: Within normal limits (WNL); Boon measurement at high end of normal

## INVOICE

40193

## DATE

8/4/22

## HOSPITAL NAME

West Hills AH

## REFERRING VET

Dr. Fogarty

## IMAGING PERFORMED BY

Sara Hansen



**PATIENT**

Shadow Charlton

- Left ventricle: WNL
- No evidence of “smoke”
- No systolic anterior motion of the mitral valve

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*Tricuspid valve*

- Valve leaflets: No abnormalities
- Tricuspid regurgitation: Absent
- Right atrium: No enlargement
- Right auricle: No enlargement
- Right ventricle: No enlargement

*Aortic valve*

- Valve leaflets: No abnormalities
- Aortic insufficiency: Absent
- Turbulent blood flow in the left ventricular outflow tract: Absent

*Pulmonic valve*

- Valve leaflets: No abnormalities
- Pulmonary insufficiency: Absent
- Turbulent blood flow in the right ventricular outflow tract: *Moderate to severe*
- Main pulmonary artery and bifurcations: No abnormalities
- Pulmonary artery: aortic ratio: No obvious abnormalities (measurement not performed).

*Other*

- Pulmonary edema: Absent
- Pericardial and pleural effusion: Absent
- Pulmonary veins: No abnormal findings
- Intracardiac mass: No obvious signs
- Papillary muscles: No obvious abnormalities
- Endocardium: No abnormal findings
- Myocardium: No abnormal findings

**ULTRASONOGRAPHIC FINDINGS**

**Cardiac**

The heart is within normal limits other than moderate to severe turbulent blood flow in the right ventricular outflow tract. The latter is physiological, and created by stress (tachycardia). That is, there are no obvious signs of structural cardiac disease.

The ECG showed possible blocked P waves and right ventricular enlargement, however, there was no evidence of an arrhythmia during the echocardiogram or right ventricular enlargement.

The cause of the progressive increase in the NT pro-BNP is not identified on today's echocardiogram. However, other diseases that may cause a false positive result include renal disease and



**PATIENT**

Shadow Charlton

hyperthyroidism. Therefore, further evaluations for these two disease processes may be considered, if not already performed.

Treatment for cardiac disease is not necessary.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Cardiac

**BREED**

An arterial blood pressure

DSH

Evaluation for hyperthyroidism and chronic renal disease, i.e. CBC, serum biochemical profile, total T4, SDMA and urinalysis are recommended, if not already performed.

**SEX**

Spayed Female

Note, the clients may be taught how to evaluate and monitor Shadow's heart rate and rhythm at home, whether by using the palm of their hands on her thorax or by purchasing an inexpensive stethoscope. If an arrhythmia is appreciated, then a Holter monitor is suggested.

**AGE**

6 Years

Monitoring of the resting (sleeping) respiratory rate (RRR) may be considered to obtain a baseline, however there are no obvious signs of cardiac disease. 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, Shadow should be re-evaluated immediately.

**WEIGHT**

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An echocardiogram is suggested in 8-12 months to ensure her parameters remain stable or sooner if she develops a heart murmur.

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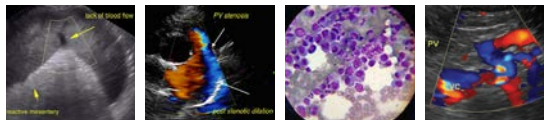
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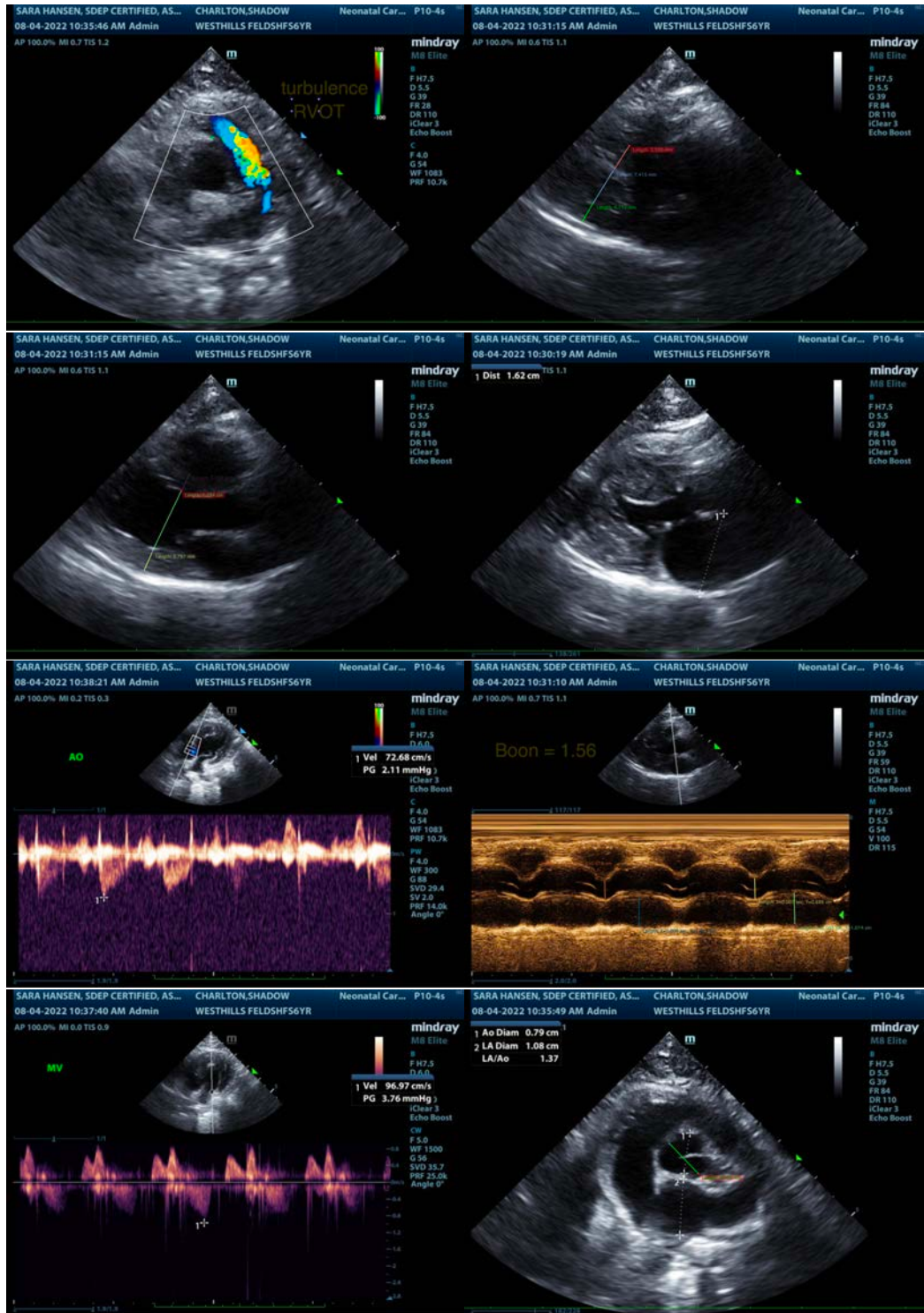
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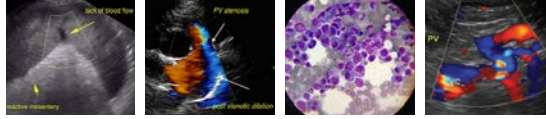
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

**SPECIES**

Feline

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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DSH

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