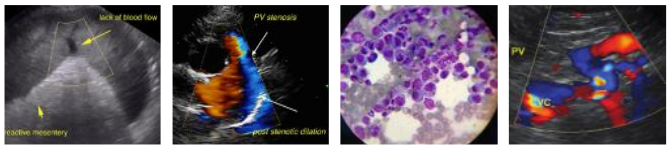
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Goia Dizdareviz

SPECIES

Canine

BREED

Cavalier King Charles Spaniel

SEX

Spayed Female

AGE

10 Years 9 Months

WEIGHT

18.4 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

ACC Flanders

REFERRING VET

Dr. Hallihan

INVOICE

16332

DATE

6/24/22

PRESENTING CLINICAL SIGNS

History: Falling over, shaking, grade IV/VI murmur (last echo in 2020, attached). O said had episode at home that right side became paralyzed after 5 min was back to normal. Current meds: Vetmedin 2.5mg bid

Abnormal PE/Chem/CBC/UA Results: alkp 297, mchc 40.3

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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	6.12	1.3	1.95	1.64	54	86	0.27
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	154	1.78	1.03	8.36	4.49	3.78-LAx	1.71-LAx

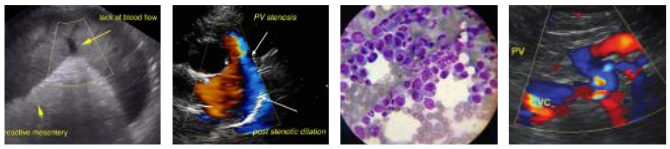
*LAx = long axis; SAx = short axis

Echocardiographic findings

Mitral valve

- Severe thickening and irregularity of both leaflets; consistent with myxomatous degeneration
- Severe prolapse of both leaflets
- Partial rupture of a chordae tendinae of the septal leaflet
- Severe mitral regurgitation, which enters the pulmonary veins.
- Mild to moderate left auricular enlargement.
- Rounding of the interventricular septum, due to left ventricular enlargement
- Exuberant contractility; increased FS since 2020
- LA: Ao ratio: Mild increase
- LA normalized for BW (LAN = 2.2); marked left atrial enlargement (was 3.0 cm in 2020)
- LVIDd normalized for BW (LVIDND = 2.1); moderate to marked left ventricular enlargement
- LVIDs normalized for BW (LVIDNs = 0.88); within normal limits (WNL)

Aortic valve



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- Mild thickening of the leaflets
- Moderate aortic insufficiency (2.62 m/s)

Tricuspid valve

- Mild to moderate thickening and irregularity; consistent with myxomatous degeneration
- Very mild prolapse of posterior leaflet.
- Moderate tricuspid regurgitation
- High index of suspicion of heart worms in right ventricle
- No obvious atrial enlargement

Pulmonic valve

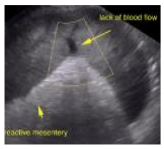
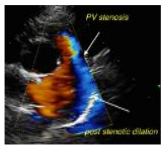
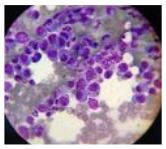
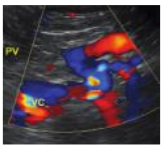
- No abnormalities
- Trivial pulmonary insufficiency.
- Main pulmonary artery within normal limits.
- Pulmonary artery: aortic ratio within normal limits.
- Pulmonary artery - bifurcation.
- High index of suspicion of heart worms in pulmonary arteries (bifurcation)

Other

- No signs of pericardial or pleural effusion
- No evidence of pulmonary edema.
- No obvious signs of a mass.
- Possible “smoke” in left atrium noted in left parasternal apical view
- Hepatic veins: no obvious signs of congestion
- No VSD or ASD

ULTRASONOGRAPHIC FINDINGS

- Myxomatous degeneration of the mitral (moderate to severe) and tricuspid (mild) valves, ACVIM stage B2, very advanced stage, with marked left atrial and left ventricular enlargement.
- Very high index of suspicion of heartworms in the pulmonary artery and right ventricle.
- Mild thickening of the aortic leaflets without vegetative lesions (i.e. no signs of endocarditis), with moderate aortic insufficiency
- Tachycardia with increased fractional shortening, i.e. increased workload on heart to perform.

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- If heartworm disease is confirmed, pulmonary hypertension may be present, but may not have been identified on today's echocardiogram. Sildenafil (very low dose) may be required in future) depending on Goia's response to therapy.
- Referral to a board certified veterinary cardiologist may be required depending on Goia's clinical status and response to the treatments suggested below.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Evaluation of blood pressure
- CBC, serum biochemical profile, including a SDMA, urinalysis, urine protein: creatinine ratio
- telmisartan if proteinuric
- clopidogrel, if proteinuric
- SNAP 4Dx
- +/- Difil test
- ECG
- pimobendan (Vetmedin) 2.5 mg/tablet. Continue administration at 1 tablet PO every 12 hours. However, if syncope persist, decrease dose to 1.25 mg PO every 12 hours.

Suggest introduction of

- spironolactone 0.5-1 mg/kg every 12 hours to help decrease fibrosis
- 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 should be evaluated immediately for congestive heart failure and the appropriate treatment initiated.
- 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.
- A re-evaluation of an echocardiogram is suggested in 1 to 3 months, depending on Goia's clinical status.

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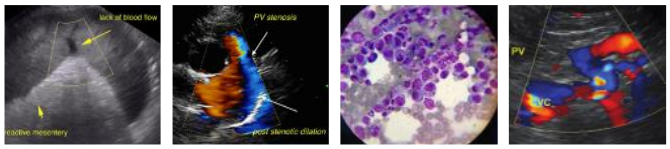

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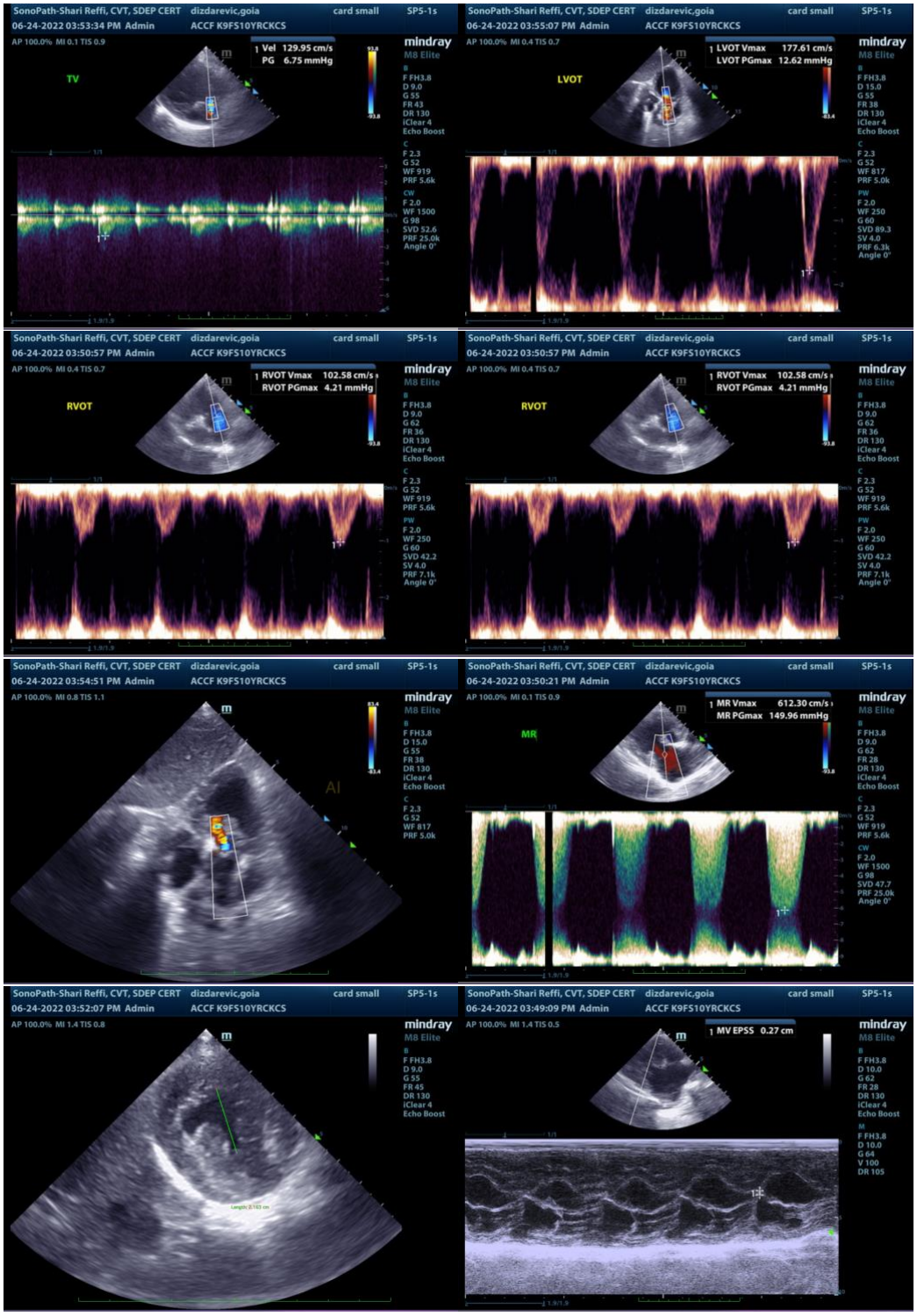

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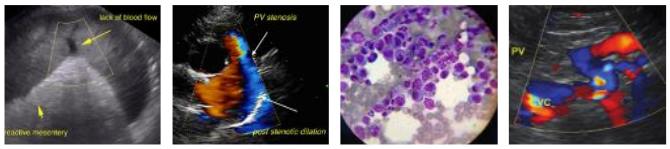

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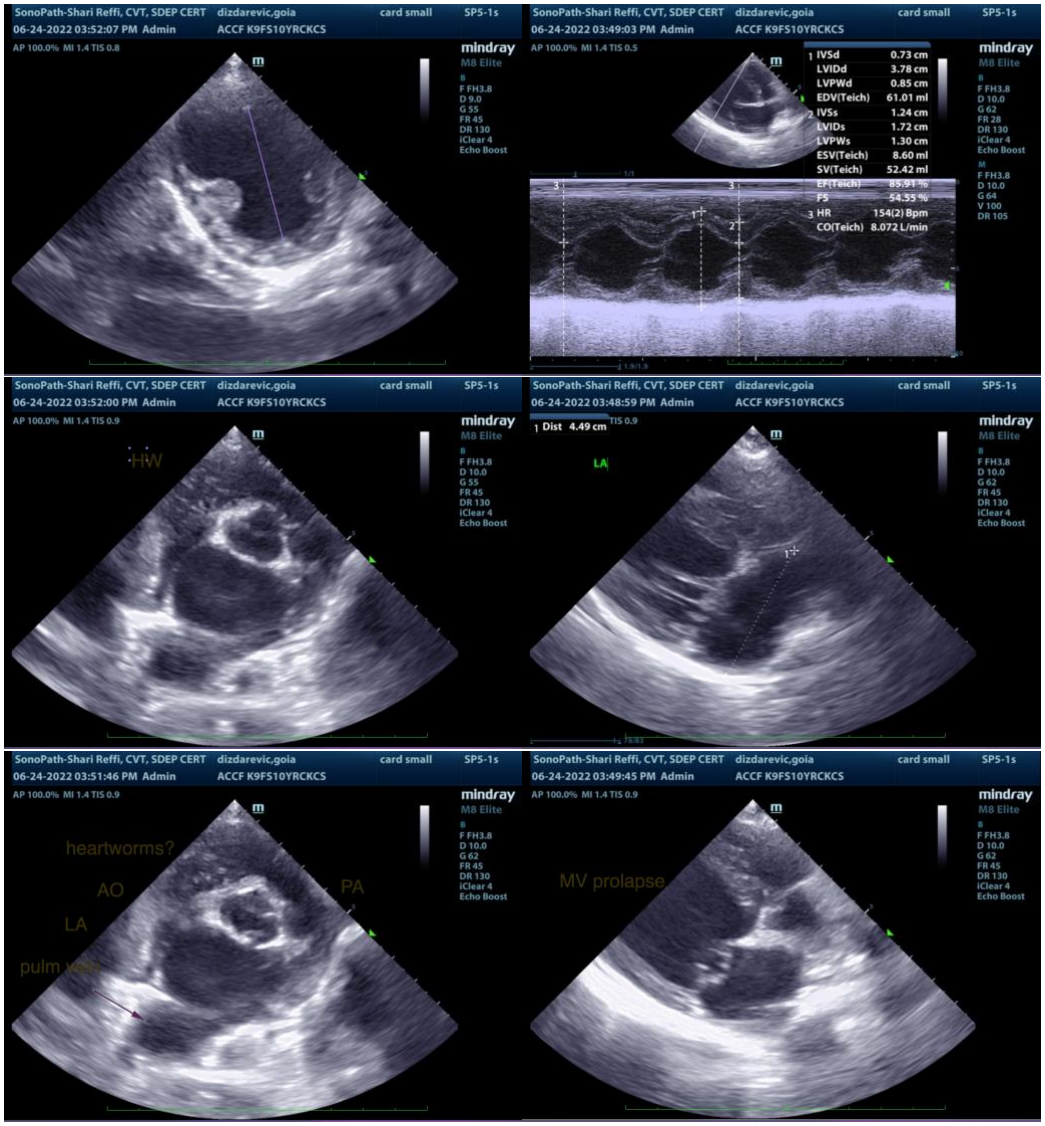

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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