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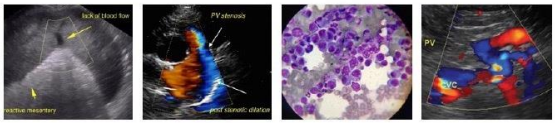

THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT
Quincey Matich

SPECIES
Canine

BREED
Shih Tzu

SEX
Male Intact

AGE
13 years

WEIGHT
12.8lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Kelly Reschny, RVT

HOSPITAL NAME
Main Street Animal Hospital

REFERRING VET
Dr. Brochu

INVOICE
21751

DATE
10/28/21

PRESENTING CLINICAL SIGNS

History: Has been coughing started a week ago. Increased resp rate while sleeping and increased heart rate. Went to EVC during evening - suspect both early CHF (mitral/ tricuspid regurgitation) and pneumonia. Grade IV/ VI heart murmur. Requires anesthetic for possible dental procedure.
-Current medications: Pimobendan 1.25mg - 1 capsule BID, Clavaseptin 250mg - 1/2 T BID, Baytril 50mg - 1T SID
-Abnormal PE/Chem/CBC/UA Results: Moderate monocytosis 2.18 (0.16-1.12), mild increased platelets 620 (148-484), glob borderline increased 46 (25-45).

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Mild eccentric mitral regurgitation with mild left atrial dilation. Normal MR velocity. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trace tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

CARDIAC CHART

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	<1.6	28-40	40-100	<0.6
PATIENT	6.2	2.5	1.48	1.8	46	79	NM
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	BELOW	BELOW	BELOW	BELOW
PATIENT	165	1.3	1.1	5.8	2.9	3.4	1.6
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
**Note: All measurements based upon multi-modal images and methods. An average value is reported.*				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing moderate mitral and mild tricuspid regurgitation. Moderate left atrial enlargement indicates the risk for spontaneous congestive heart failure is relatively low, yet may be elevated going forward. No additional issues such as pulmonary hypertension or systolic dysfunction are noted.

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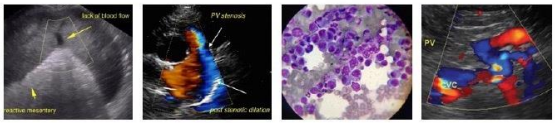

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While it is uncommon for moderate valve disease to lead to CHF, if prior radiographs confirmed edema and the patient responded to diuretic therapy then this would support the diagnosis and medications should be continued as below. That being said, Lasix is not reported in the current medications and if the patient is doing well without it this would suggest purely a primary respiratory issue. If there is any question in the diagnosis (i.e., a cough in this breed is often multi-factorial in origin) or there was no response to Lasix, consider a radiologist review of the films. CHF is a radiographic diagnosis that can only be supported by ultrasound. If confirmed, the average survival time of canine patients once a diuretic is initiated for CHF is 8-9 months on medications, however they generally are able to maintain a good quality of life for that period.

Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future. Serial monitoring of SRRs is recommended as the best way to screen for progression to CHF at home.

If CHF is suspected, elected anesthesia is not advised, as there is high risk for complication. If necessary, cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 cage. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Moderate IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

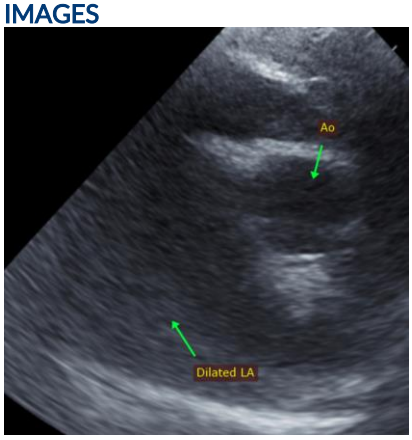
PLAN

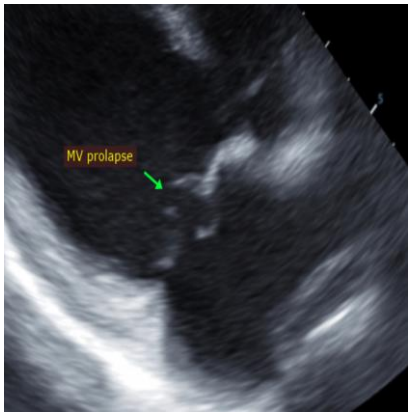
Screening BP. Consider need for Lasix as discussed based upon history, Radiologist CXR evaluation, response to therapy. Continue Pimobendan 0.3mg/kg PO q12h. If Lasix is indicated, an ACEI should also be administered 0.5mg/kg PO q12h. Consider Hydrocodone if needed for quality of life.

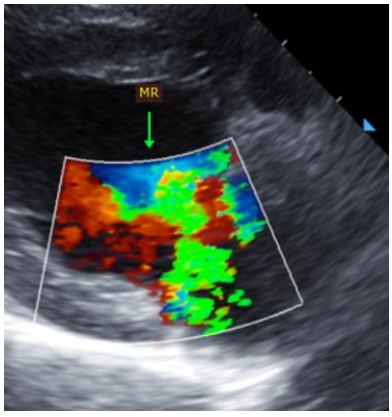
A recheck renal panel is recommended every 3-4 months lifelong if Lasix is continued.

A recheck BP and echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs arise.

IMAGES







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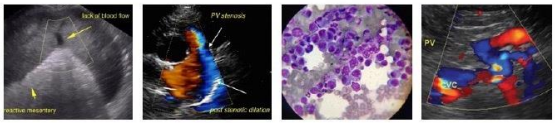

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com