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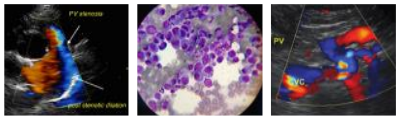

SonoPath

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PATIENT

Portia Douglass

SPECIES

Canine

BREED

Shih Tzu

SEX

Female Intact

AGE

9 years

WEIGHT

13.7lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

HOSPITAL NAME

Northwind Animal Hospital

REFERRING VET

Dr. Jones

INVOICE

20533

DATE

8/13/21

PRESENTING CLINICAL SIGNS

History: Recheck echo. Patient had several episodes of heavy breathing and inappetence over the weekend. Crackles on auscultation 7/22, patient put on oral Lasix with improvement.
-Current medications: Furosemide 20mg BID x 5-day taper.
-Sedation used: Sedation not required for scan.
-Pertinent previous ultrasound results: (7-20-2020 MML): Moderate MR, mild LAE, normal LV, trace TR: 2.3m/s. LA:2.0, LV: 3.4.
-STAT: STAT REPORT REQUESTED!

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is severely diffusely thickened (ant>>post) with prolapse into the left atrial lumen. A flail leaflet is visualized. A ruptured chordae tendinae is suspected. There is severe mitral regurgitation present. There is severe left atrial enlargement. There is mild left ventricular dilation. Left ventricular systolic function is hyperdynamic. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. No AI. The main pulmonary artery is normal in size. Mild right atrial and right ventricular dilation. The tricuspid valve is mildly thickened with mild tricuspid regurgitation. Velocity consistent with moderate pulmonary hypertension. No pericardial/pleural effusion or cardiac masses are seen.

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	4.8	4.0	NM	2.2	39	70	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	120	0.66	0.6	6.2	2.5	3.8	2.3
*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 persists with severe mitral and mild tricuspid regurgitation with evidence of progression compared to the prior study. Severe left atrial and mild ventricular enlargement confers an elevated risk for spontaneous congestive heart failure. The finding of a ruptured chordae tendineae dramatically raises this risk. Lifelong cardiac supportive medications are indicated as below independent of clinical signs or chest radiograph findings, given a high risk for congestive heart failure going forward. There is also evidence of moderate pulmonary hypertension, which may be secondary to active congestion. No specific therapy is advised at this time. No additional issues such as systolic dysfunction are identified.

Given these findings, the diagnosis of CHF is suspected and full lifelong cardiac support is indicated as below with continued Lasix therapy.

Long term prognosis is guarded to poor; however, most patients are able to do well on medications for some time (average 8-12 months) once in CHF. A chordal rupture does not necessarily change prognosis, assuming the patient is able to be stabilized through the initial event. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future. Monitoring of sleeping breathing rates is recommended as the best way to screen for recurrent CHF at home.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a worsening cough, labored breathing, exercise intolerance or collapse episodes. Elective anesthesia is not advised.

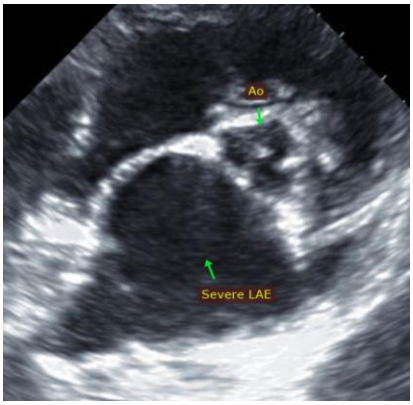
PLAN

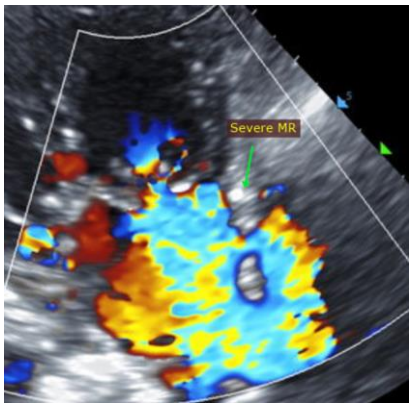
Assuming the patient has improved on the high dose of Lasix, decrease to 10mg PO q12h going forward. Institute Pimobendan 0.3mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h.

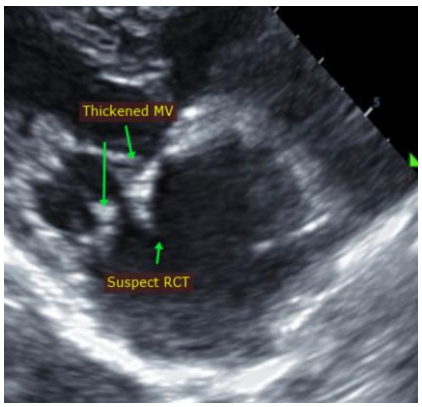
A renal panel and BP are recommended in 10-14 days following the above medication changes, then every 3-4 months lifelong on diuretics. If doing well and BP is >130mmHg, institute ACE-I 0.5mg/kg PO q12h. If cough persists and RR is normal, consider addition of hydrocodone with homatropine if needed for QOL (0.2-0.4mg/kg up to q4-6h PRN). Consider baseline CXR.

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

IMAGES







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)