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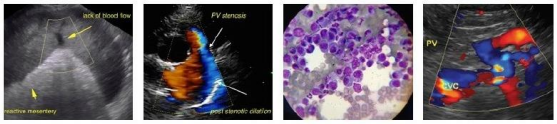

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT
Rusty Schmidt

SPECIES
Canine

BREED
Terrier Mix

SEX
Male Neutered

AGE
12 years

WEIGHT
11.5lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Loetitia St-Jacques, LVT/RVT

HOSPITAL NAME
Grass Valley Veterinary Hospital

REFERRING VET
Dr. Cortright

INVOICE
32524

DATE
8/23/23

PRESENTING CLINICAL SIGNS

History: New grade 5/6 heart murmur. Assess prior to dental. After chest radiographs were taken, patient was dyspneic with abdominal breathing; received oxygen and Lasix therapy pending CXR results.
-CXR report: Cardiomegaly. Mild PV enlargement and moderate pulmonary edema.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with mild prolapse into the left atrial lumen. 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 aortic insufficiency. The main pulmonary artery is mildly dilated. Mild right atrial and right ventricular dilation. Mild right ventricular hypertrophy. The tricuspid valve is thickened with mild to moderate tricuspid regurgitation. The tricuspid regurgitant velocity is elevated. No pericardial/pleural effusion or cardiac masses are seen. Early hepatic congestion suspected.

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	4.5	4.4	NM	2.0	53	85	0.12
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	155	1.1	1.1	5.2	2.8	3.1	1.5
*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

The cause of the murmur is chronic degenerative valve disease causing severe mitral and mild to moderate tricuspid regurgitation. Severe left atrial and ventricular enlargement indicate the risk for spontaneous congestive heart failure is high. There is also concurrent significant pulmonary hypertension, which may indicate underlying pulmonary pathology as well. Mild right heart enlargement is seen with concern for early hepatic congestion. No additional issues are identified.

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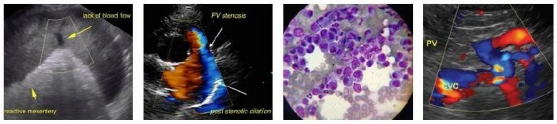

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Given these findings, full cardiac medications are recommended as below including Sildenafil therapy. Additional respiratory therapy may be indicated if symptoms persist despite medications (i.e., a course of Baytril, etc.). Pending response to diuretic and supportive cardiac therapy, cough suppression (hydrocodone up to q4-6 hours) may also be helpful for QOL. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.

The average survival of canine patients with this severity of disease and concern for CHF is 8-9 months on medications, however they generally are able to maintain a good quality of life. Going forward the risk will remain high for CHF (right or left-sided), development of arrhythmias/syncope and/or sudden death, and close monitoring is advised.

Elective anesthesia is not advised.

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, abdominal distention, exercise intolerance or collapse episodes. Monitoring of sleeping breathing rates is the best way to assess for development of cardiogenic edema going forward.

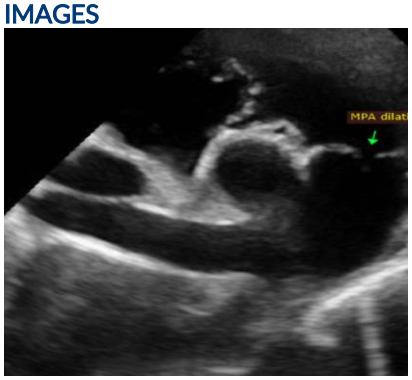
PLAN

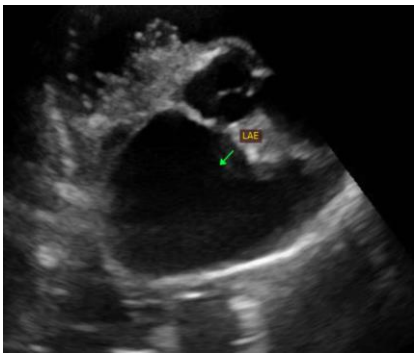
Administer Lasix 1-2mg/kg PO q12h. Administer Pimobendan 0.3mg/kg PO q12h. Administer spironolactone 12.5mg PO q12h. Administer Sildenafil 1-2mg/kg PO q12h. If indicated, consider hydrocodone with homatropine, .2-.4mg tabs, PO up to q4-6 hours PRN. Pending BP >130mmHg, consider ACEI 0.5mg/kg PO q12h. Depending on clinical signs (not specified), further respiratory treatment may also be indicated.

A renal panel is recommended in 10-14 days to ensure tolerance of medications, then every 3-4 months lifelong.

A recheck echocardiogram is recommended in 4-6 months to screen for progression, sooner if clinical signs arise/persist.

IMAGES





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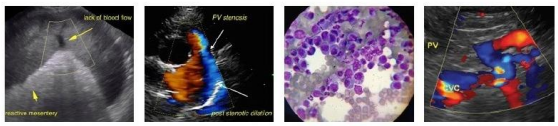

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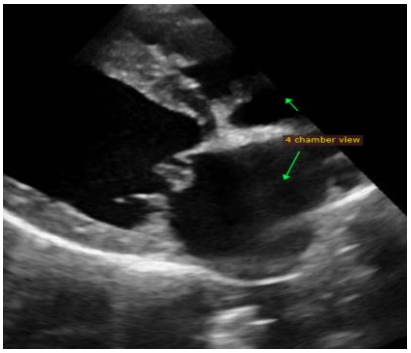

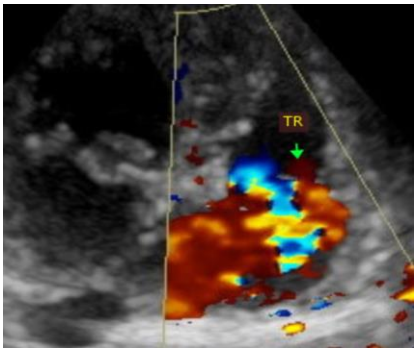

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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