

PATIENT

Mighty Moe Hall

SPECIES

Canine

BREED

English Bulldog

SEX

MN

AGE

2009

WEIGHT

72lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

HOSPITAL NAME

Churchville Veterinary
Clinic

REFERRING VET

Dr. Uhland

INVOICE

20668

DATE

8/20/21

PRESENTING CLINICAL SIGNS

History: History of liver mass, R sided cardiomegaly. Progress cervical edema unresponsive to diuretic.

No coughing, still e/d.

-Pertinent abnormal PE/Chem/CBC/UA Results: No changes from last AUS (liver mass, hepatic congestion).

-Current medications: 10mg Vetmedin AM, 5mg PM - since April 2021. 75mg Salix q8h (6.8mg/kg/day)- since April 2021. 300mg Gabapentin q12-24h prn.

-Sedation used: Not needed.

-STAT: Not requested/declined by doctor.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Moderate to severe eccentric mitral regurgitation with mild thickening of the mitral valve. Normal MR velocity. LV function is adequate. Left atrium is moderately increased in diameter. LV is normal in diameter. Mild RA/RV dilation; mild RVH. Moderate to severe TR. TR velocity consistent with mild pulmonary hypertension. The pulmonic and aortic valves are normal in appearance. Normal aortic outflow velocities with no AI. Normal RVOT velocity. Mild MPA branch and dilation. Mild PI identified. No pleural or pericardial effusion or ascites are seen. No obvious cardiac or extra-cardiac tumors visualized.

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	<1.2.06	28-40	40-100	<0.6
PATIENT	4.9	3.0	NM	1.75	31	58	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	64	1.5	0.82	32.7	3.5	4.7	3.3
*Normal chamber parameters expressed as a mean value				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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				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)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				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)

Adapted from June Boon, Veterinary Echocardiography, 1998
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435
Hansson et al, Vet Rad and Ultrasound 2002
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The primary issue in this case is presumed right-sided congestive signs secondary to a previous diagnosed liver mass. This is presumably leading to right heart enlargement and development of cervical edema based upon only mild right heart enlargement (ie right heart disease is not clearly the issue). There is also concurrent chronic degenerative valve disease with moderate to severe mitral and tricuspid regurgitation. Interestingly, the TR velocity is only mildly elevated which would further support the liver mass being the primary issue. The right heart is mildly enlarged and there are **arrhythmias noted throughout the study**. A baseline ECG is strongly recommended. There is also LA dilation which suggests significant concurrent left-sided heart disease as well. No obvious cardiac or extra-cardiac tumors are identified at this time.

The difficulty in this case lies in a presumed mechanical obstruction rather than true pulmonary hypertension and Sildenafil will likely be of little benefit. That being said, it is worth an attempt if no other options are present. The best we can do is treat symptomatically and use medications for congestive heart failure to help slow fluid accumulation. The compressive nature confers a poor to grave prognosis at this juncture and if quality of life suffers humane euthanasia should certainly be considered. Diuretics are a band aid over a much bigger issue as the tumor continues to grow. Given the complexity of this case, if the client opts to go forward immediate referral to a multi-specialty center should be considered for advanced imaging and treatment options. The dose of Lasix is approaching the toxic range, and a lack of response is certainly a negative prognostic sign. If referral is declined, please note medications below; however, optimism is low that there will be any significant benefit for peripheral edema.

High risk will always remain for development of effusions (pericardial, pleural, abdominal or peripheral) and development of malignant arrhythmias/sudden death at home. Monitor at home for progressive abdominal distention, labored breathing and/or lethargy and collapse.

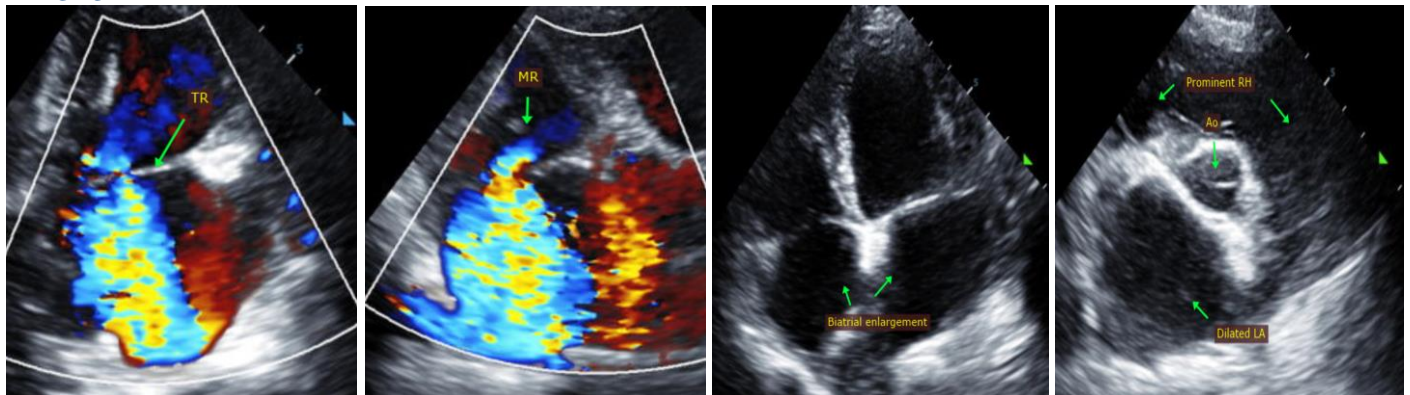
PLAN

Highly recommend immediate referral to a multi-specialty center for advanced diagnostic, imaging and treatment options versus euthanasia. If declined, consider attempt the following medication changes: Administer Pimobendan 10mg PO q12h. Continue Lasix as prescribed. Institute Spironolactone 1-2mg/kg PO q12h. Baseline BP is recommended, if >130mmHg, institute ACE-I 0.5mg/kg PO q12h. Institute Sildenafil 1-2mg/kg PO q8h. Highly recommend baseline ECG in this patient.

A renal panel is recommended in 5-7 days, then every 3-4 months going forward.

A recheck echocardiogram is recommended in 6 months pending clinical progression.

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.

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