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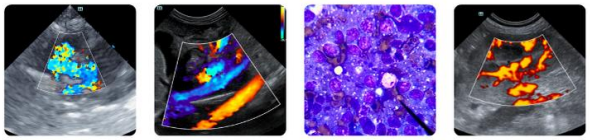


Clinical Sonography & Telecytology
Educational Teleconsultation Services™

PATIENT

Doc Holiday Staggs

SPECIES

Canine

BREED

Italian Greyhound

SEX

Male Neutered

AGE

12 years

WEIGHT

40.8lbs

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Gudrun Gunther, DVM

HOSPITAL NAME

New Frontier Animal Medical Center

REFERRING VET

Dr. Gunther

INVOICE

47101

DATE

3/4/26

PRESENTING CLINICAL SIGNS

History: Presented for hyporexia, lethargy, and tachypnea for several days. Moderate weight loss. We removed 1 L tan fluid from abdomen after imaging was performed. Sedated with IV Butorphanol and Midazolam for ECG. Started on Vetmedin and Furosemide pending Echo/ECG results.
-Abnormal PE/Chem/CBC/UA Results: PE: soft- moderate systolic heart murmur. Tachypnea but no increased respiratory effort. Abdominal fluid wave AFAST scan - significant abdominal fluid, dilated hepatic veins. CBC= mild neutrophile. CHEM - mild increased ALT, ALP. Abdominal fluid - tan color. BP: 104-139mmHg.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

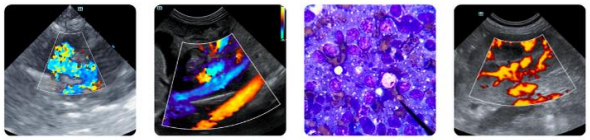
A single lead ECG is available; 25mm/s, 10mm/mV. The average heart rate is 210bpm with an irregularly irregular rhythm. No identifiable P waves consistent with atrial fibrillation. Isolated VPCs.
ECG diagnosis: Rapid fibrillation with isolated VPCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Decreased MR velocity. Severe LV dilation with depressed myocardial function. The tricuspid valve appears normal with moderate tricuspid regurgitation. Mildly elevated TR velocity. Moderate right atrial and ventricular dilation. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. Mild aortic and pulmonic insufficiency; normal velocities. Scant pericardial effusion. No pleural effusion noted. Hepatic vessel dilation with ascites. 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		3.0	>3.0	2.8	34	62	0.5
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	NM	0.8	0.8	18.5	5.0	5.3	3.5
*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 **Note: All measurements based upon multi-modal images and methods. An average value is reported.*				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
				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)



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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	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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Findings are most consistent with chronic degenerative valve disease causing severe mitral and moderate tricuspid regurgitation. Significant biatrial and ventricular enlargement indicates the risk for spontaneous congestive heart failure is high and ascites is consistent with right-sided CHF (biventricular failure). The LV function is mildly depressed, which is likely secondary. Mild pulmonary hypertension is present, which is likely secondary to active congestion. Finally, a small aortic insufficiency is noted, and a baseline BP is recommended.

As a complicating factor, rapid atrial fibrillation (AF) has developed. AF is characterized by disorganized contractions of the atria leading to an irregular heart rhythm. The irregular heart rhythm rarely causes clinical signs in dogs. However, atrial fibrillation also usually causes an increase in the heart rate, and this leads to clinical signs and CHF as we see here. Development of AF and CHF requires lifelong diuretics and management of the structural disease in addition to the arrhythmia. It is important to note that right-sided failure is due to the arrythmia while left-sided failure is due to the structural disease.

Unfortunately, dogs with CHF and AF are at high risk for complications such as recurrent congestive heart failure, malignant arrhythmias, left atrial tear and sudden death. Medications and close monitoring will help give the best prognosis possible, however the average survival time with this condition is <6 months.

Goals of therapy include correcting water retention, improving myocardial contractility, afterload reduction, and heart rate control. Full cardiac support including aggressive diuresis is indicated, due to the high risk for decompensation with rapid arrhythmias and severe disease. Medical management is recommended as below with a guarded to poor prognosis. Continued hospitalization is recommended until the patient is stabilized. The target heart rate is 140-160bpm in hospital.

Please monitor at home for cough, lethargy, inappetance, collapse/fainting episodes or increase in respiratory rate or effort. Monitoring of sleeping breathing rates is recommended to screen for recurrent CHF at home. Moderate activity restriction is advised. Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.

PLAN

Consider hospitalization for IV diuretic/rate control therapy if needed. Administer Spironolactone 1-2mg/kg PO q12 hours. Continue Lasix/Furosemide 1-2mg/kg PO q12h Continue Pimobendan 0.3mg/kg PO q12 hours. Institute Diltiazem 1-2mg/kg PO q8 hours.

Recheck heart rate in 5-7 days with target being 140-160bpm in hospital (stressed). If persistently >180bpm, institute Digoxin 0.005mg/kg PO q12h.

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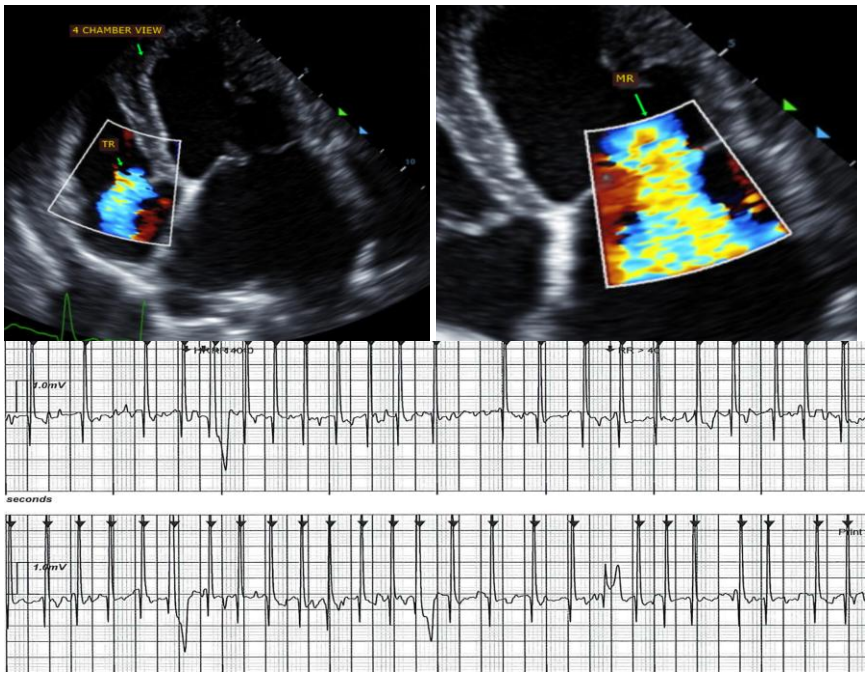
Screening renal panel, BP and digoxin level in 5-7 days (6-8 hours post-am dose) to ensure tolerance of medications. Once eating well at home and BP is documented > 130mmHg, administer ACE-I 0.5mg/kg PO Q12h.

A recheck echocardiogram is recommended in 6 months to screen for 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.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
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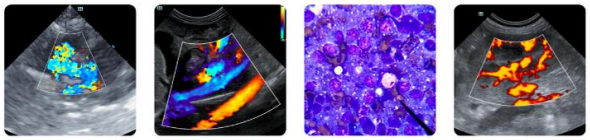

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