



PATIENT

Sanson Torrellas
Ferrari

SPECIES

Canine

BREED

German Shepherd

SEX

Male Neutered

AGE

9 years

WEIGHT

84lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

G. Ferrer, DVM

HOSPITAL NAME

Paseos Veterinary
Center

REFERRING VET

Dr. Oritz

INVOICE

29039

DATE

2/16/23

PRESENTING CLINICAL SIGNS

History: Presented for coughing, loose stools, and suture removal from recent abdominal surgery. During the examination, an arrhythmia was auscultated. A previous murmur was recently auscultated too. This patient had an abdominal exploratory for having masses in the abdomen noticed on abdominal ultrasound and CT scan that end up being retained testicles that never descended bilaterally for 9 yrs. Patient is not on any medication. ECG to idexx diagnosed rapid AF.
-Abnormal PE/Chem/CBC/UA Results: PE: irregular heartbeat. Grade 2-3/6 systolic murmur

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

A single lead ECG is attached throughout the study. Findings are consistent with rapid atrial fibrillation. No ventricular arrhythmias are other issues are identified. The recorded heart rate of 250bpm appears appropriate.
ECG diagnosis: Rapid atrial fibrillation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Moderate mitral regurgitation with severe left atrial dilation. Decreased MR velocity. Dilated LV diameter with adequate myocardial function for this signalment. Increased sphericity of the LV. The tricuspid valve appears mildly thickened, with mild tricuspid regurgitation. Moderate right heart dilation. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic insufficiency. No pericardial effusion noted. No cardiac tumors observed.

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	NM	NM	NM	1.6	27	50	0.37
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	260	0.9	0.9	38.1	4.3	5.4	3.9
*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)
<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



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing moderate mitral and mild tricuspid regurgitation. Severe CVD has progressed to severe 4 chamber dilation and consequently rapid atrial fibrillation (AF) and the patient is at exceedingly high risk for biventricular congestive heart failure. The arrhythmia predisposes to right-sided congestion, while the structural disease predisposes to left-sided.

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. Development of AF and CHF requires lifelong diuretics and management of the structural disease in addition to the arrhythmia.

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.

A cough is noted, which is likely cardiogenic in origin and baseline CXR are recommended. Full cardiac support is indicated as below due to high risk for decompensation with rapid arrhythmias and severe disease. Medical management is recommended as below with a guarded to poor prognosis. If the patient has any decline, fainting or respiratory distress, emergency hospitalization for rate control is recommended. The target heart rate is 140-160bpm in hospital.

Please monitor at home for progressive 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. Screening BP recommended. Institute Spironolactone 1-2mg/kg PO q12 hours. Institute Lasix 1-2mg/kg PO q12 hours. Institute Pimobendan to 0.3mg/kg PO q12 hours. Institute Diltiazem 1-2mg/kg PO q8h.

Recheck heart rate/BP in 5-7 days with target being 140-160bpm in hospital (stressed). If persistently >180bpm, institute Digoxin 0.005mg/kg PO q12h. If doing well at this visit and BP >130mmHg, institute Benazepril 0.5mg/kg PO q12h.

Screening digoxin level after 5-7 days (6-8 hours post-am dose) to ensure tolerance of medications. Monitor for GI upset tarry stools.

Monitor renal values/BP every 3-4 months lifelong.

A recheck echocardiogram is recommended in 4-6 months to screen for progression.



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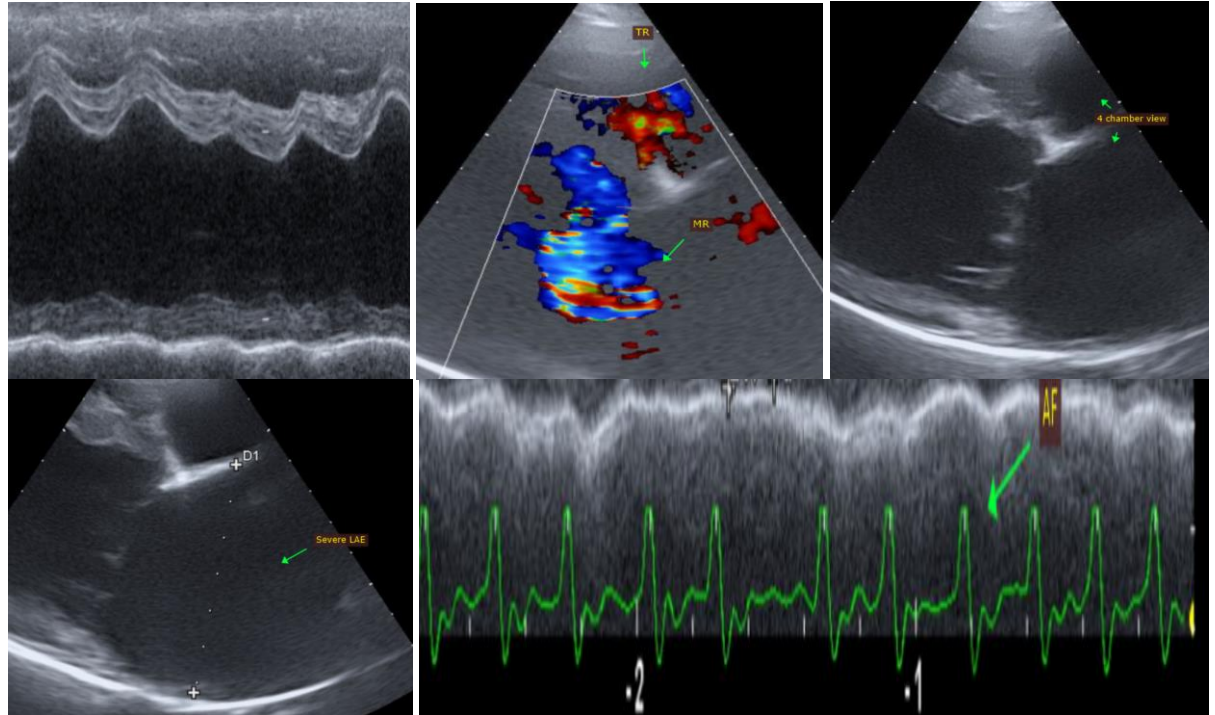
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IMAGES



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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.

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