



PATIENT

Colt Coots

SPECIES

Canine

BREED

Boxer

SEX

Male Intact

AGE

11 years

WEIGHT

67lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan,
RDCS

HOSPITAL NAME

VCA Hanson Animal
Hospital

REFERRING VET

Dr. Oscar

INVOICE

28193

DATE

1/9/23

PRESENTING CLINICAL SIGNS

History: History mild mitral valve dysplasia, mild MR diagnosed on echocardiogram in September 1999. (LA 2.39 cm; LA:Ao 1.31; LV 3.82 cm; normal chamber sizes; normal LV function. Presents with recent episode of syncope - fell with legs out, not responding for about a minute, then legs seemed wobbly. Recovered and was fine for the rest of the day, but quiet. This may have happened one other time (owner thought he had tripped). On exam: Grade I-II/VI systolic murmur PSS, no arrhythmia noted.

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 110bpm (range 75-150bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. P and QRS morphologies are positive. VPCs are identified throughout; primarily singles; however, two tight couplets are identified. Polymorphism is noted. No runs of VT are appreciated. No atrial premature beats, pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm with malignant ventricular arrhythmias.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.

Left ventricle: The LV diameter is normal with adequate myocardial function. LV wall thicknesses are normal.

Left atrium: The left atrium is mildly dilated. A small hyperechoic appendage can be seen extending from the heart base tumor, suspected to be within the left atrial lumen. Flow through the left atrium does appear compressed.

Mitral valve: The mitral valve is mildly thickened with no prolapse into the left atrial lumen. Trace mitral regurgitation.

Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity. No aortic insufficiency.

Right ventricle: No RV enlargement.

Right atrium: No RA enlargement.

Tricuspid valve: The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. Velocity consistent with early pulmonary hypertension.

Pulmonary valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow.

Pericardium/other: A heterogeneous heart base tumor is appreciated (5.5 x 6.4cm in best viewed cross section. No pericardial or pleural effusion noted.

2-Dimensional Measurements

Ao diam (cm)	2.5
LA diam (cm)	4.1
LA:Ao (Swe)	1.6
IVS thickness (cm)	1.0
LVID diastole (cm)	3.6
PW thickness (cm)	1.1
LVID systole (cm)	1.6
FS (%)	55

Doppler Measurements

PV Vmax (m/s)	1.0
AoV Vmax (m/s)	1.6
MR Vmax (m/s)	NA
TR Vmax (m/s)	2.9
TR PG (mmHg)	34



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INTERPRETATION OF THE FINDINGS

Several abnormalities are identified. Trace/mild mitral and tricuspid regurgitation are noted, presumably consistent with the prior exam and appear mild. Mild pulmonary hypertension is also identified which should be monitored going forward. Of much greater importance there is a large soft tissue mass is seen adjacent to the heart base with extension into the left atrial lumen. The most likely diagnosis is a chemodectoma based upon location and signalment, with extension into the left atrial lumen. There does appear to be compression of flow through the left atrium, which is of great concern going forward.

Additionally, frequent VPCs are noted on the ECG with tightly coupled pairs. VPCs are ectopic beats generated from abnormal conductive or fibrotic tissue in the ventricles of the heart muscle, and even frequent single VPCs will often cause no clinical signs in dogs. When sustained however, ventricular tachycardia can lead to symptoms such as lethargy and collapse.

VPCs are a very non-specific finding. They can be primary in origin (arrhythmic disease; a rule out diagnosis), develop secondary to significant cardiac disease, or be extra-cardiac in origin, i.e., due to pain, stress, inflammation, cancer, GI disease, DIC/sepsis, etc. In a senior Boxer with a cardiac mass, this is the suspected cause. Concurrent primary arrhythmic disease cannot be ruled out. Regardless, based upon what is seen here arrhythmogenic syncope is suspected and sotalol is recommended. This patient is at high risk for sustained arrhythmias and sudden death and unfortunately even on Sotalol this risk persists.

Going forward, the finding of the mass alone confers a guarded to poor prognosis based upon early compressive signs and development of arrhythmias. There are some options for palliating this type of cancer, including radiation and chemotherapy. Full systemic screening to assess for metastasis may be useful (AUS, labs, etc.) when deciding what is appropriate. Consultation with an Internist or Oncologist is recommended in light of echo results. Recommend cardiac supportive Pimobendan at this time.

Prognosis is poor long-term given these findings and euthanasia should be considered if quality of life suffers in the future.

RECOMMENDATIONS

- Institute Sotalol 1-2mg/kg PO q12h, ideally with a holter monitor in 2-4 weeks.
- Institute Pimobendan 0.3mg/kg PO q12h.
- Consider referral for advanced thoracic imaging, Oncology consultation and full systemic screening.
- If patient declines and referral is not elected, euthanasia should be considered.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit
- Anesthesia is not advised prior to further evaluation and stabilization.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.



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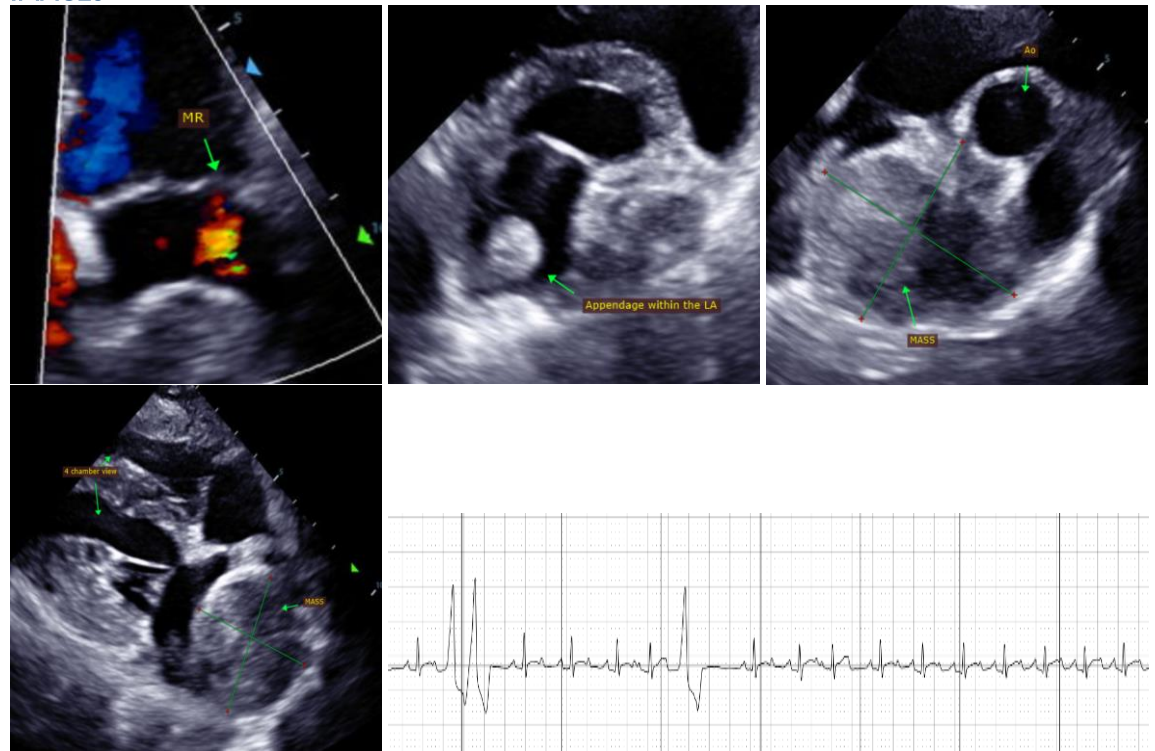
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PLAN

- A recheck ECG or ideally a holter is recommended in 1-2 weeks to assess response to medication.
- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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
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