PATIENT

Leonidas Manuel

SPECIES

Canine

BREED

American Bully

SEX

Intact Male

AGE

10 Years

WEIGHT

57

INTERPRETED BY

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

IMAGING PERFORMED BY

Ginny Dodd, DVM, D, ABVP-CFP

HOSPITAL NAME

Animal Clinic of Madison-Mayodan

REFERRING VET

Dr. McKinlay

INVOICE

16448

DATE

05/22/26

PRESENTING CLINICAL SIGNS

Labored breathing, referral respiratory sounds making it difficult to hear the heart, previous ECG showed occasional VPC

Radiographs showed generalized cardiomegaly, irregularly oval shaped radio dense mass effect over heart base on R lateral thoracic films- will send

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	BW	HR BPM	LAD 4 ch Long	RAD 4 ch Long	La/Ao Heart Base	LVIDd	LVIDs
NORMAL PARAMETER		50-100			<1.6		
PATIENT	25.91	160	4.71	3.3	1.58	5.22	3.97
CANINE CARDIAC PARAMETERS	**FS**	**EPSS**	**PV V MAX (m/s)**	**AV V Max (m/sec)**	**MR Vmax**	**TR Vmax**	**RPA distensibility (normal >30%)**
NORMAL PARAMETER	28-40	<0.6	0.7-1.6	0.7-1.7	4.5-5.5	< 2.7	
PATIENT	24	1.4	0.7	1.4	5.4	3.1	NM

Cardiac Presentation

The left atrium is mild to moderately enlarged. The left ventricle is moderately enlarged, with reduced systolic function. The right atrium and ventricle are normal in dimension, with normal systolic function. The anterior and posterior mitral valve leaflets are appropriately thin, but do not completely appose during systole due to the annular dilation, and there is no significant prolapse. There is mild to moderate mitral regurgitation identified. The tricuspid valve leaflets are appropriately thin with adequate apposition, intact chordae, with mild tricuspid regurgitation and evidence of borderline pulmonary hypertension. The left ventricular outflow tract demonstrated normal laminar flow and the visible aorta is unremarkable. The right ventricular outflow tract assessment revealed normal laminar flow, with appropriate main pulmonary artery diameter and right pulmonary artery distensibility. There is no pulmonic and no aortic valve insufficiency identified. There is no visible pericardial, pleural, or free peritoneal fluid documented. No overt hepatic venous congestion is noted. There is a moderately sized heart base mass in the peri-aortic region that does not appear to be affecting pulmonary vasculature at this time.

ECG

There is a single-lead ECG available for review. The underlying rhythm is regular at an average rate of 160bpm. The rhythm appears to be sinus in origin with narrow QRS complexes. There is occasional ventricular ectopy identified.

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ULTRASONOGRAPHIC FINDINGS

These findings are consistent with dilated cardiomyopathy with significant hemodynamic effects. Intrinsic myocardial dysfunction (ie DCM) is a concern. Other possibilities, including primary valve disease with secondary ventricular changes or myocardial depressant effects of systemic disease must also be considered. It would also be important to verify that the owners are not feeding a grain-free, exotic, or boutique diet, as a secondary nutritional cardiomyopathy must also be considered. Ventricular arrhythmias occur in many clinical settings, generally divided into cardiac and non-cardiac causes. Cardiac conditions include structural heart disease, pericardial effusion/cardiac neoplasia, and rarely myocarditis. Non-cardiac causes are common and include splenic disease, metabolic disease, electrolyte disturbances, tick-borne disease, fever, anemia, trauma, GDV, hepatic disease, GI disease, pancreatitis, DIC, and sepsis. Given the degree of chamber enlargement and recent thoracic radiographs, congestive heart failure is a likely explanation for the clinical/radiographic signs. The heart base mass is likely a chemodectoma based on its location and is most likely an incidental finding at this time.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Therapy for CHF is recommended, with Lasix bolus (2-4 mg/kg IV PRN up to 10 mg/kg total dose) or a CRI (0.5-1 mg/kg/hr) as needed to resolve edema. Once oral therapy is started, therapy should include Lasix (2mg/kg BID), enalapril (0.5mg/kg BID assuming normotension and lack of renal insult), and Vetmedin (.25-.35mg/kg BID). Dobutamine (2.5-10 μ g/kg/min as a CRI, starting at 2.5 μ g/kg/min and increasing the dosage incrementally) may be used in addition to the above treatments to improve the left ventricular function and blood pressure in patients that fail to respond adequately to diuretics, Pimobendan, sedation, oxygen, and comfort care measures. If the owners are feeding a grain free diet, an immediate diet change would be necessary, and the addition of taurine (50 mg/kg BID) would be appropriate. If there is any concern for metabolic/systemic disease, additional testing (complete bloodwork including T4 and resting cortisol, abdominal ultrasound) should be considered. Otherwise, a repeat chest X-rays, BP, and chemistry should be performed now for a baseline, and again in 1-2 weeks. A repeat echo is indicated in 3 months. Owners should monitor resting respiratory rate at home. Values above 30 breaths/minute or an increase in respiratory rate 10% above baseline should prompt veterinary re-evaluation.

The following sources for supplemental taurine are recommended:

Mega taurine caps by Twinlab (1000mg capsule)

Taurine by Swanson Health Products (500mg capsule)

Taurine by NOW foods (500mg capsule)

Taurine 500 by GNC (500mg tablet)

Anesthesia considerations:

Anesthesia should be avoided until manifestations of congestive heart failure (edema/effusion/respiratory distress) have resolved. Following that time, if anesthesia is necessary, then alpha-2 agonists, ketamine, high dose acepromazine, and Telazol should be avoided. If an ACE inhibitor (enalapril, benazepril) or spironolactone is being given, it should not be administered on the morning of general anesthesia. Other cardiac medications should be administered per the normal dosing schedule. Anesthetic IV fluid use should be limited to < 3 ml/kg/hr and, if IV fluid therapy is administered during the procedure, a 1 mg/kg dose of IM Lasix should be administered when the

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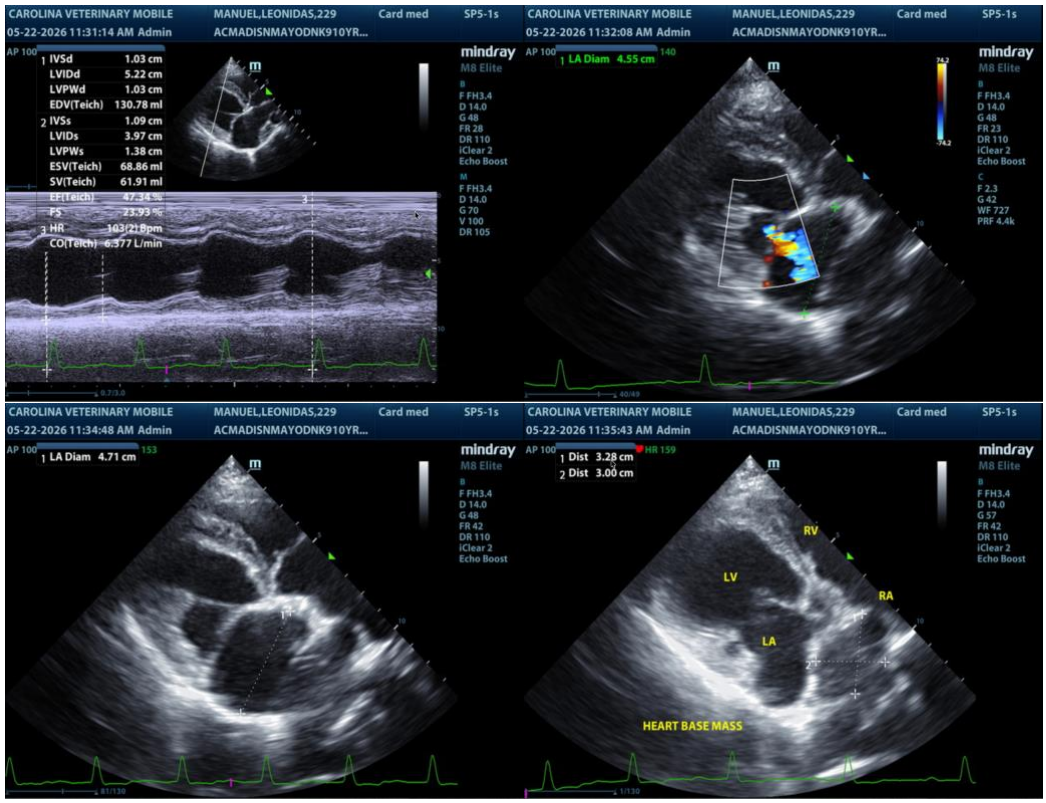
patient is awake and standing in recovery. A shorter anesthetic duration will reduce the risk of complications. Pre-oxygenation is advised. Premedication with an opioid (i.e., butorphanol, hydromorphone, oxymorphone) with or without a benzodiazepine is generally the safest protocol. An induction agent such as Propofol, Alfaxalone, or diazepam/etomidate can be used to effect. Maintenance of anesthesia with isoflurane or sevoflurane is reasonable. Dobutamine (2.5-10 μ g/kg/min as a CRI, starting at 2.5 μ g/kg/min and increasing the dosage incrementally) may be used in lieu of fluid boluses to augment systemic blood pressure.

Diet:

A high-quality food from Hills, Royal Canin, Science Diet, Eukanuba, Iams, or Purina that is highly palatable with adequate protein and calories for maintaining optimal body condition with mild dietary sodium restriction (<100 mg/100 kcal) is recommended. Consider omega-3 fatty acid supplementation. Avoid any boutique, exotic, or grain-free diets.

Activity:

Moderate physical activity (meandering walks, exploring the backyard, playing with toys inside, getting excited when family gets home, etc.) is encouraged, but periods of strenuous aerobic activity (jogging, strenuous outdoor ball play, prolonged play at the dog park, etc.) should be avoided, especially during periods of high heat (> 80 F) and humidity. Dogs with heart disease tend to tolerate cool and cold temperatures much better than high temperatures. Avoid sudden increases in activity (e.g. 2 block walks during the week but 2 mile walks followed by 30 minutes at the dog park on the weekends) as this may be difficult for the cardiovascular system to deal with.



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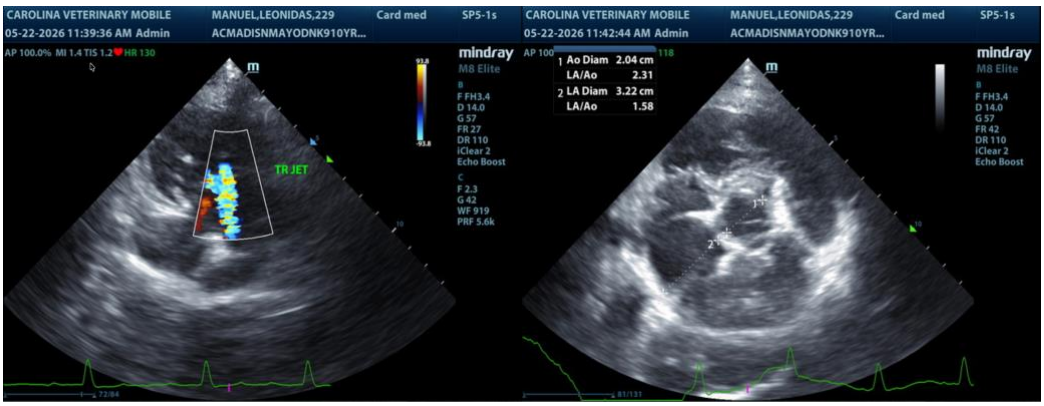

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

info@SonoPath.com