

PATIENT

Dave Cote

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

13 Years

WEIGHT

5.59 kg

PRESENTING CLINICAL SIGNS

Inappetence, weight loss, lethargy. Dx with pleural effusion on 05/16/26 at another clinic. A grade 2-3 heart murmur was auscultated on the left sternal side. no arrhythmia or pulse deficits. A mild increase in respiratory effort was observed. Lung sounds are normal and clear bilaterally, with no muffled sounds noted. Palpation revealed a moderate amount of gas in the gastrointestinal tract. The coat is dull and unkempt. A prolonged skin tent was noted, consistent with mild dehydration and age-related loss of skin elasticity. A Thoracic Focused Assessment with Sonography (T-FAST) was performed and revealed the following: Possible pericardial effusion. Thickening of the heart muscle, suspected to be the left ventricle. A small amount of pleural effusion in the caudoventral thorax. Current Medications: emavert injection given on 05/19/26 and buprenorphine 0.8mg/ml 0.06mls orally q12 hours. Ondansetron 4mg 1/2 tab orally q12 hours. Furosemide 20mg 1/4 tab orally q12 hours.

Elevated Total Protein at 92 g/L (normal 52-88 g/L), elevated Globulin at 66 g/L (normal 23-53 g/L), low BUN at 3.7 mmol/L (normal 5.0-12.9 mmol/L), elevated Amylase at 1603 U/L (normal 100-1200 U/L), and elevated PrecisionPSL at 28 U/L (normal 8-26 U/L). Elevated White Blood Cell (WBC) count at $17.2 \times 10^9/L$ (normal $3.5-16.0 \times 10^9/L$), low Mean Corpuscular Volume (MCV) at 33 fL (normal 37-61 fL), and low Mean Corpuscular Hemoglobin (MCH) at 10.1 pg (normal 11-21 pg). High relative neutrophils at 86% (normal 35-75%), low relative lymphocytes at 9% (normal 20-45%), and high absolute neutrophils at $14.79 \times 10^9/L$ (normal $2.50-8.50 \times 10^9/L$). Radiographic Findings Abdominal and thoracic radiographs revealed significant pleural effusion. There was also suspicion of abdominal effusion.

INTERPRETED BY

Bradley Harris, DVM,
 DACVECC, DACVIM
 (Cardiology)

IMAGING PERFORMED BY

Kelly Reschny

HOSPITAL NAME

Steeltown Cat Hospital

REFERRING VET

Dr. Hall

INVOICE

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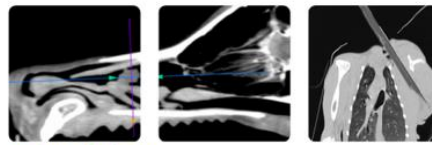
05/21/26

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	5.59	260	0.65	1.72	0.69	67	95
FELINE CARDIAC PARAMETERS	LA/AO (M-mode)	LA/AO HEART BASE (Sisson)	LAD LA MAX 4 Chamber	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)	
NORMAL PARAMETER	<1.5	1.6	0.7-1.7	<1.6	<1.3	40-60	
PATIENT	1.51	1.43	1.61	1.5	1.6	NM	
Adapted from June Boon, Veterinary Echocardiography, 1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							

Cardiac Presentation

The left atrium is upper limits of normal enlarged. There are no distinct left atrial thrombi/clots or spontaneous echo contrast appreciated. The left ventricle is upper limits of normal in dimension, with mild to moderate concentric hypertrophy, and no evidence of restriction. Left ventricular systolic function is normal, with adequate contractility based on fractional shortening and systolic left



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ventricular dimensions. The right atrium and ventricle are subjectively normal in dimension and systolic function. There is evidence of systolic anterior motion of the mitral valve with mild to moderate mitral regurgitation. The tricuspid valve leaflets presented normal linear structure, extension in systole, and union in diastole without regurgitation. The left ventricular outflow tract demonstrated turbulent flow and subjective structural valvular integrity. The visible aorta is unremarkable. Pulmonary outflow tract assessment revealed normal valve structure, laminar flow, and appropriate diameter and distensibility. There is no evidence of semilunar valve insufficiency or pulmonary hypertension documented. There is trace pericardial, mild pleural, but no overt free peritoneal fluid noted.

ULTRASONOGRAPHIC FINDINGS

- These findings identify LV hypertrophy in the setting of an outflow tract obstruction, consistent with hypertrophic obstructive cardiomyopathy (HOCM). The presence of borderline left atrial dilation with history of diuretic administration and cavitory effusion makes CHF a likely explanation for the clinical/radiographic signs.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

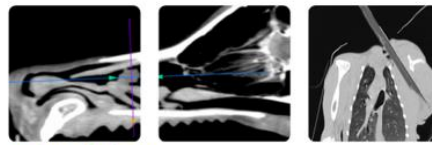
Therapy for CHF is indicated, and should include Lasix (2mg/kg q24 to BID) and enalapril (0.5mg/kg q24, assuming normal blood pressure and kidney function). There are significant dilemmas regarding additional therapy, as atenolol is often used in the setting of HOCM, and Vetmedin is indicated in patients with heart failure. Unfortunately, there are contraindications to the atenolol (heart failure) and the Pimobendan carries a labeled contraindication in the setting of LV hypertrophy and outflow tract obstruction. Therefore, we will continue with just the furosemide and enalapril unless clinical signs change. A repeat evaluation is recommended in 1-2 weeks, at which time the blood pressure, chemistry, and thoracic radiographs should be repeated. At that time, the addition of Plavix (18.75mg q24) is recommended. Due to the bitter taste of this medication, it may be best to place it in an empty gelatin capsule or use products such as a Pill Pocket. A repeat echocardiogram, blood pressure, chemistry panel, and thoracic radiographs are indicated in another 3-6 months, or sooner if the condition worsens.

Anesthesia considerations:

Anesthesia should be avoided until signs of congestion have resolved. 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 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.

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.



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Activity:
 Avoid strenuous activity.

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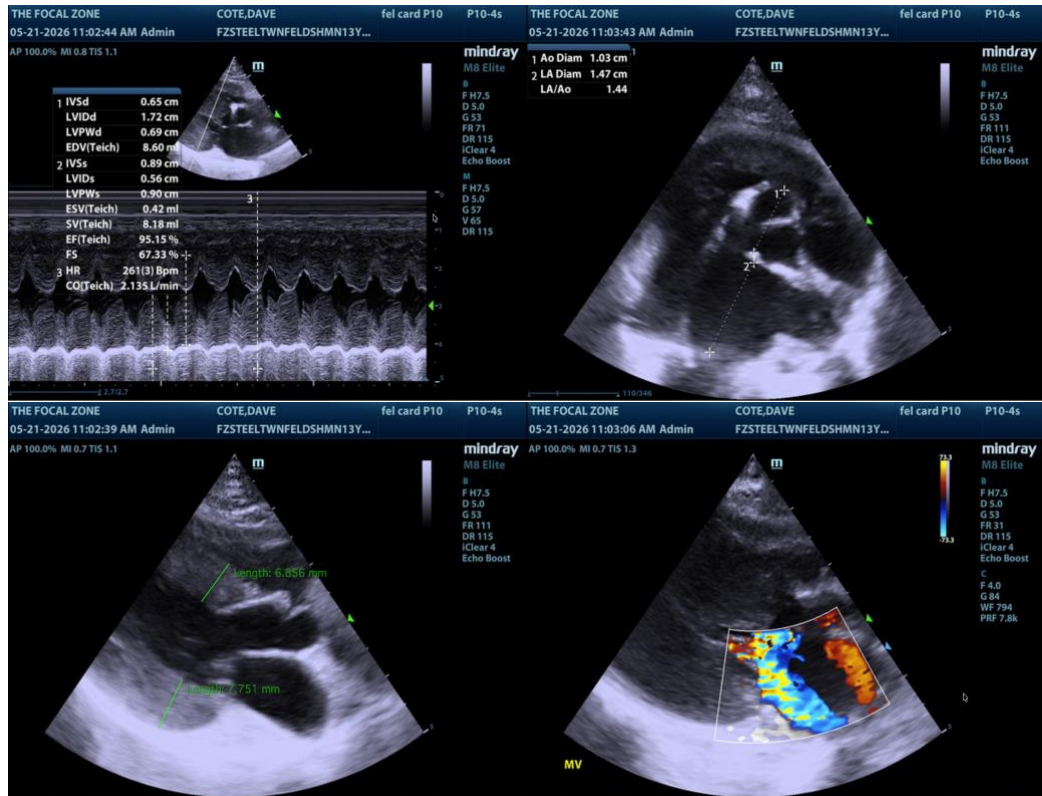
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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