



PATIENT

Coco Ilashuk

SPECIES

Canine

BREED

Chihuahua

SEX

Intact Female

AGE

7 Years

WEIGHT

11 pounds

INTERPRETED BY

Bradley Harris, DVM,
DACVECC, DACVIM
(cardiology)

IMAGING PERFORMED BY

Dr. Hesham Akbawy

HOSPITAL NAME

Lincoln Avenue Cat &
Dog Hospital

REFERRING VET

Dr. Hesham Akbawy

INVOICE

14313

DATE

03/13/26

PRESENTING CLINICAL SIGNS

- grade 5/6 murmur
- We are going to start today either Pimobendan, clopidogrel, Spironolactone & Enalapril.
- Till we get your report

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	5.0	NM	3.73	2.16	1.88	3.92	2.02
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	48	0.2	NM	1.2	NM	NM	NM

Cardiac Presentation

The left atrium is severely enlarged. The left ventricle is severely enlarged, with marginal systolic function. The right atrium and ventricle are normal in dimension, with normal systolic function. The anterior and posterior mitral valve leaflets are thickened and redundant consistent with myxomatous changes, and there is moderate prolapse. There is moderate to severe mitral regurgitation identified. The tricuspid valve leaflets are appropriately thin with adequate apposition, intact chordae, with trivial tricuspid regurgitation and no evidence of 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, and appropriate diameter and distensibility. There is no pulmonic and no aortic valve insufficiency identified. There is scant pericardial, but no visible pleural, or free peritoneal fluid documented. No evidence of hepatic venous congestion is noted. The cardiac chambers, pericardial and visible extra-cardiac regions were free of masses, spontaneous echo contrast, or thrombi.

ULTRASONOGRAPHIC FINDINGS

- These findings are consistent with degenerative mitral valve disease with moderate hemodynamic effects (ACVIM stage B2 or C). The presence of mild pericardial effusion in dogs with significant LA enlargement is supportive for a left atrial split, especially in the absence of any mass lesions. Therefore, it is likely that clinical signs and pericardial effusion



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are from a rupture of the left atrium due to distension and/or a jet lesion. This is generally not a manifestation of congestive heart failure, although it can be (particularly if abdominal effusion is present).

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Pericardiocentesis is generally avoided in these cases, as disruption of the clot can exacerbate clinical signs. Instead, therapy with Vetmedin (0.25-0.35 mg/kg BID) is recommended. Enalapril (0.5 mg/kg BID, assuming normotension and lack of renal insult) and low dose Lasix (1-2 mg/kg BID) can also be used. If the systemic blood pressure is low, these cases are much more challenging to manage, as there is need for both fluids and diuretics. Often, a CRI of Lasix is used; concurrent dobutamine therapy is also required for those cases where BP is especially compromised. A repeat free fluid ultrasound, blood pressure, chemistry and thoracic radiographs are recommended prior to discharge and again in 1-2 weeks. At that time, any necessary medication adjustment can be made. A repeat echocardiogram, thoracic radiographs, blood pressure, and chemistry panel are recommended 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.

Anesthesia considerations:

Anesthesia should be avoided until any signs of CHF and pericardial effusion have resolved. If anesthesia is necessary after that time, 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 (e.g., 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. Ensure the patient is not currently receiving a boutique, exotic, or grain-free diet.

Activity:

Light to moderate physical activity (meandering walks, exploring the back yard, playing with toys inside for short periods, 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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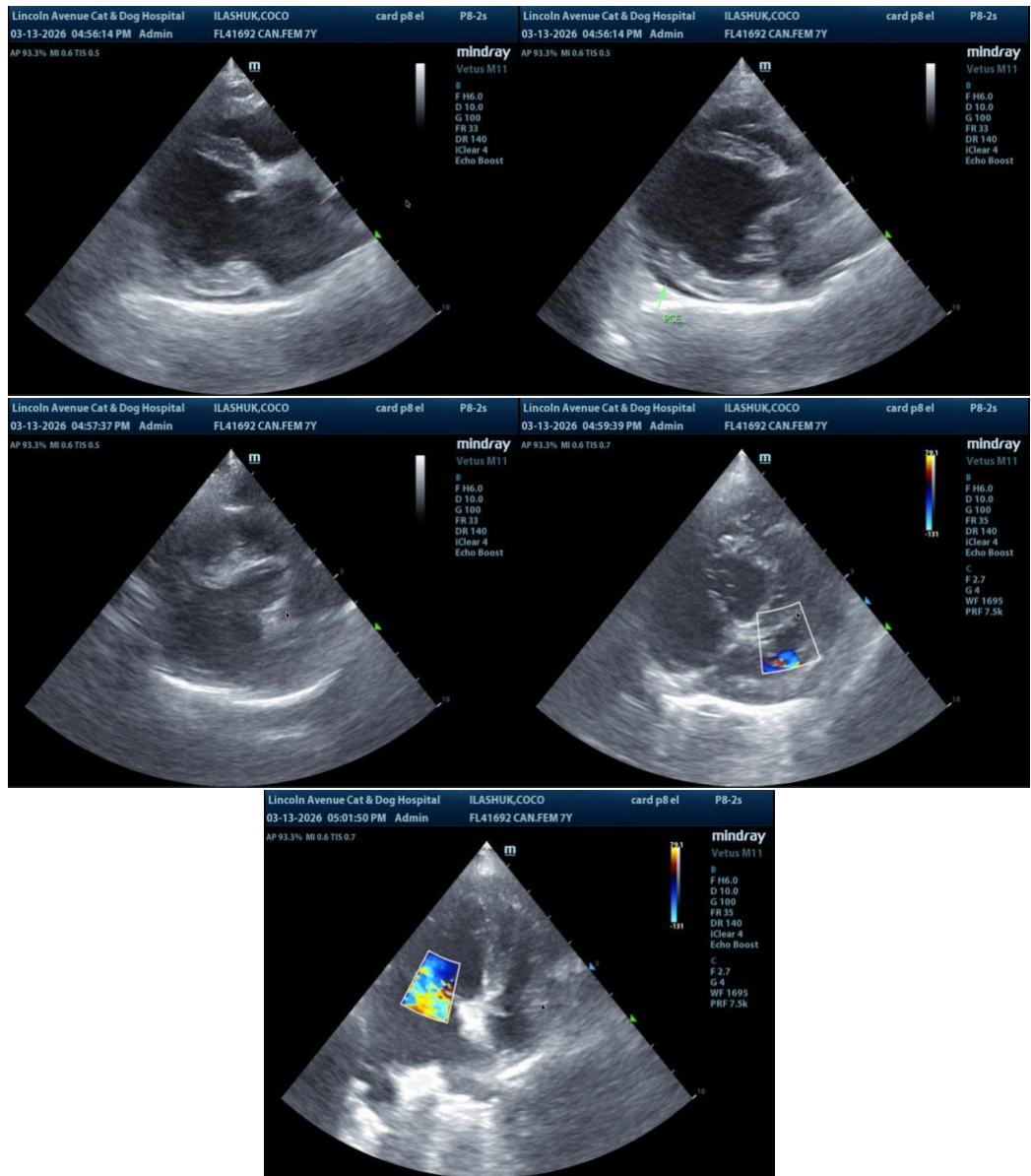
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

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