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Clinical Sonography & Telecytology
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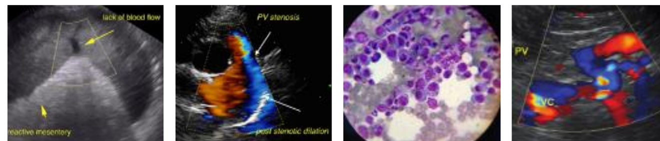


PATIENT
Lillo Finco

SPECIES
Canine

BREED
Beagle

SEX
MN

AGE
17

WEIGHT
38

INTERPRETED BY
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY
Dr. Sharkaway

HOSPITAL NAME
Kew Gardens Animal Hospital

REFERRING VET
Dr. Sharkaway

INVOICE
13529ag

DATE
04/18/2023

PRESENTING CLINICAL SIGNS

Heart murmur 5 out of 6

Abnormal PE/Chem/CBC/UA Results: Dental calculus Blood work–mild leukocytosis

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

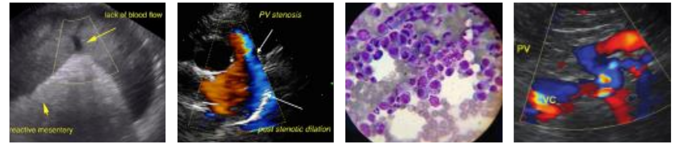
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT				1.7	38	70	0.3
CANINE CARDIAC PARAMETERS	**HR (BPM)**	**AV VMAX (m/s)**	**PV MAX (m/s)**	**BODY WEIGHT (kg)**	**LA 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				
PATIENT	NM				4.3	4.0	

Cardiac Presentation

The echocardiogram for this patient presented excessive left atrial size expressed both in the LA/AO and LA max measurements. Mild deviation of the interatrial septum towards the right atrium suggestive of mild increased left atrial pressure was noted. The cranial and caudal mitral valve leaflets presented moderate thickening consistent with endocardiosis. Mild prolapse of the septal leaflet was present without evidence of chordae tendinea rupture. Turbulent blood flow noted around the mitral valve on Doppler. The left ventricle presented thicknesses with linear contour and increased left ventricle volume. The myocardium presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. Contractility of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The left ventricular outflow tract demonstrated normal laminar flow and subjective structural integrity. The right atrium and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. Tricuspid valvular assessment demonstrated adequate linear morphology. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Pulmonic tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible pericardial or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The cranial mediastinum and pericardial regions were free of masses in the visible window.

ULTRASONOGRAPHIC FINDINGS

- Thickened mitral valve with mild septal leaflet prolapse.
- Emerging left heart volume overload.



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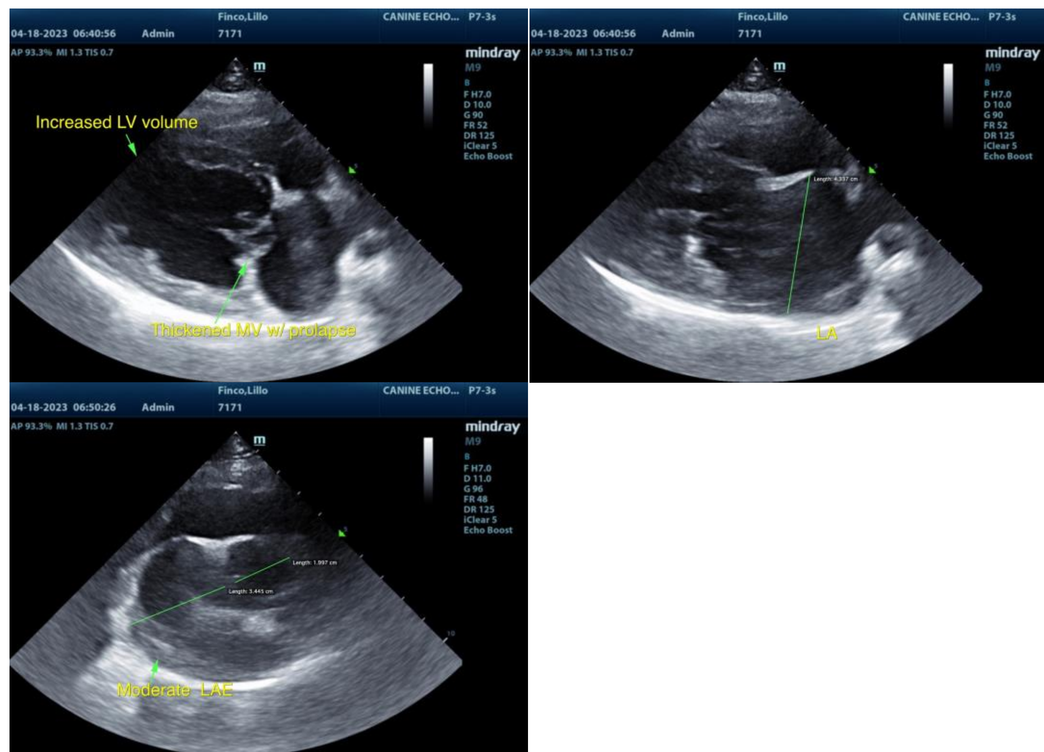
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This study is most consistent with chronic degenerative valvular changes and secondary mitral valve insufficiency as a cause of the murmur. The hemodynamic effects of the murmur appear to be significant given moderate LA/LV enlargement and emerging left heart volume overload. No additional issues such as LV systolic dysfunction or evidence of DCM criteria.

Pimobendan 0.3 mg/kg PO BID is recommended at this stage. Weak diuretic spironolactone 1-2 mg/kg PO BID is suggested while ACE inhibitor medication may be considered if systemic BP >130. Monitoring of resting RR is advised. Potentially omega fatty acids and mild salt restriction may prove beneficial. The prognosis is highly variable and serial sonographic monitoring is required for further assessment. Recheck echocardiogram recommended in 6 months, sooner if clinical signs arise.

Anesthetic risk is considered moderate yet may be mildly reduced once on Pimobendan for 3-5 days. If anesthesia is required, the following protocol is suggested including limited anesthetic time and judicious IVF use.

Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.



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.

R. McKenzie Daniel, DVM, DABVP (Canine/Feline Practice)

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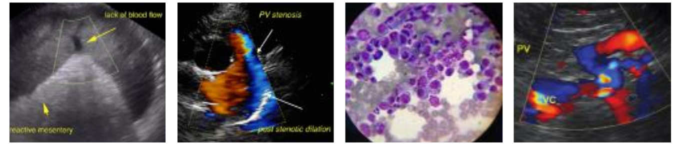

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