

PATIENT

KayTLynn Kelley

SPECIES

Canine

BREED

Labradoodle

SEX

FI

AGE

6mo

WEIGHT

26bs

PRESENTING CLINICAL SIGNS

History: Soft intermittent murmur left heart base. Only appreciated AM of spay, which was postponed. HR 120-160 during previous exams. RR sniff/pant but WNL at rest. Heart Rate and Respiratory Rates HR 120-160 during previous exams. RR sniff/pant but WNL at rest. Blood Pressure Measurements Normal AM of spay appt. Current Medications Trazodone ECG report (Idexx): NSR, tall/wide P waves; LAD CBC/chem WNL for age. Accuplex neg x 4.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only. Cardiomegaly. No obvious evidence of CHF.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve leaflets are abnormal with a thickened and club-like anterior leaflet. Abnormal closure with mild mitral regurgitation. The left atrium is difficult to visualize; however, mild dilation is suspected. There is a large defect in the atrial septum, consistent with an ostium primum ASD. Flow across the defect appears right to left. An endocardial cushion defect is suspected, although not confirmed in this image set. Normal LV diameter with normal myocardial function. The LV walls are normal. The tricuspid valve leaflets appear mildly elongated, with trace tricuspid regurgitation present. Severe right atrial dilation. Severe RV dilation. MPA appears severely dilated. Normal pulmonic outflow velocities. The PV leaflets appear normal. Moderate pulmonic insufficiency. The aortic valve appears to have normal morphology and mobility. Normal aortic outflow velocities. No pericardial or pleural effusion noted.

INTERPRETED BY

Maggie Machen
 Lamy, DVM, DACVIM
 (Cardiology)

CARDIAC CHART

IMAGING PERFORMED BY
 Jenna Walsh, CVT

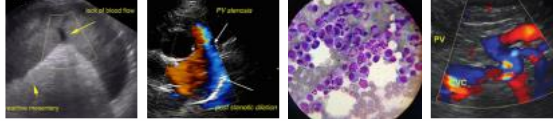
HOSPITAL NAME
 Ark AH

REFERRING VET
 Dr. Parker

INVOICE
 23380

DATE
 3/31/22

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	<1.6	28-40	40-100	<0.6
PATIENT	4.7	2.7	NM	1.8	34	66	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	BELOW	BELOW	BELOW	BELOW
PATIENT	120	1.2	1.5	11.8	2.6	2.3	1.5
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
Adapted from June Boon, Veterinary Echocardiography, 1998				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
Hansson et al, Vet Rad and Ultrasound 2002				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)



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Clin North Am 15:1177, 1995	35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
	40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
	50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Complex congenital cardiac disease is present with a large ostium primum atrial septal defect (ASD) suspicious for an endocardial cushion defect. The flow right to left on color flow, although not confirmed. The right heart and MPA are massively dilated, supporting this conclusion. Both AV valves are thickened, which is often a concurrent issue. No obvious additional issues are identified; however, with this degree of anatomic distortion small abnormalities are easily missed.

Right to left shunts are quite uncommon in veterinary medicine (albeit they likely go under-diagnosed). Treatment is simply providing cardiac support (Pimobendan, diuretics), with attention to blood volume as the patient ages. Polycythemia may develop as a result, and a baseline CBC is recommended. Continued monitoring of hematocrit is recommended, with periodic phlebotomy as needed. Additionally hydroxyurea can be utilized to slow RBC production if an elevated HCT develops.

This case carries high risk for associated clinical signs, including congestive failure, development of malignant arrhythmias (AF, VT, AV block, etc.), and or sudden death at home. I would **highly recommend referral in this case for advanced imaging to confirm the diagnosis and have lifelong management if possible**. If declined, an alternative would be to institute cardiac supportive medications as below in hopes of prolonging asymptomatic life. Prognosis is guarded to poor long term.

Prognosis is poor long term, as QOL begins to become an issue that medical management is limited in improving. Patient will always be at risk for debilitating cyanosis, syncope, hindlimb weakness, general malaise and/or sudden death.

Elective anesthesia is not advised, as there is high risk for complication.

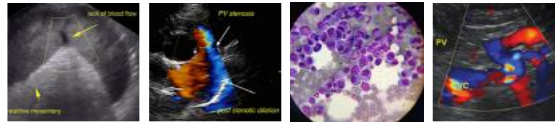
Monitor for development of associated clinical signs (collapse, abdominal distention, cough, labored breathing). Lifelong exercise restriction is advised. Omega fatty acid supplementation may have some long-term benefit.

PLAN

Highly recommend referral as discussed to confirm the diagnosis and manage this complicated case. If declined, institute Pimobendan 0.3mg/kg PO q12h. Institute Spironolactone 1-2mg/kg PO q12h. Once BP documented >130mmHg, institute Benazepril 0.5mg/kg PO q12h.

Monitor closely for congestive signs and need for Lasix therapy (abdominal distention, respiratory changes, etc).

If referral is declined, recommend recheck echocardiogram in 6 months sooner if any clinical signs develop.



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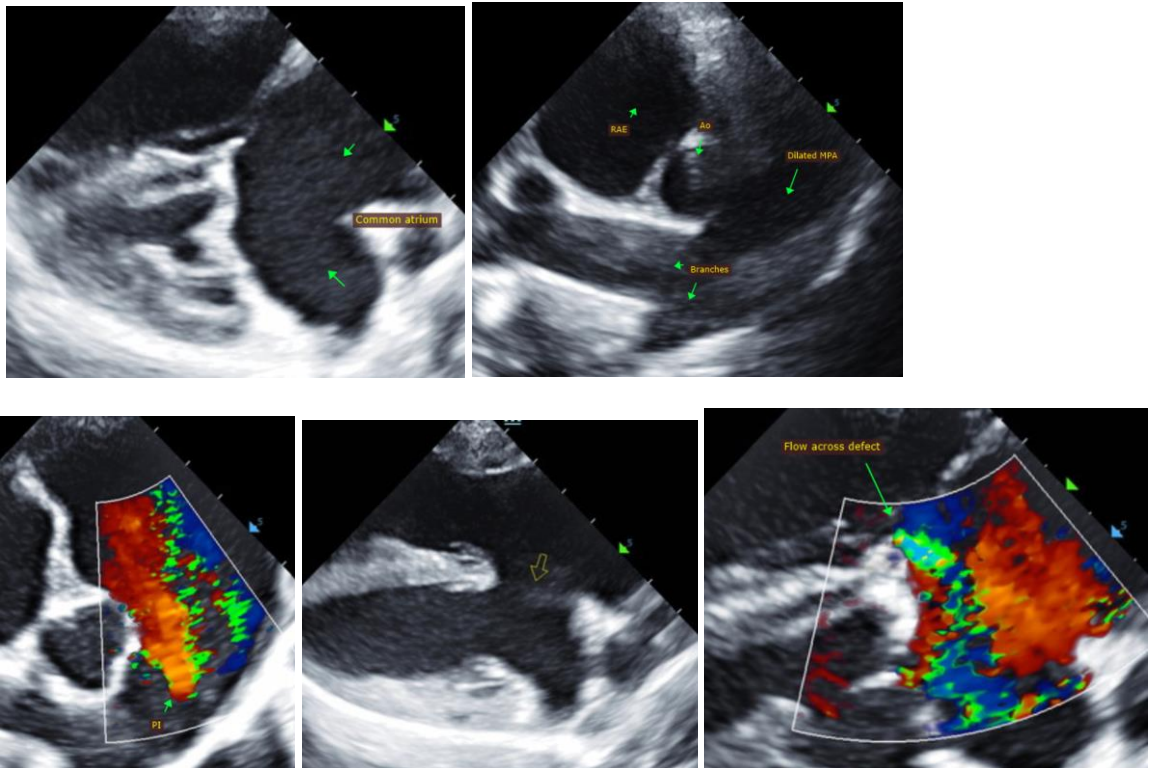
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IMAGES



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.

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