



PATIENT

Joey Call

SPECIES

Canine

BREED

Chihuahua

SEX

Male Neutered

AGE

6 years

WEIGHT

11lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Potomac Mobile
Veterinary Ultrasound

HOSPITAL NAME

Anicura Veterinary
Clinic

REFERRING VET

Dr. Jarrett

INVOICE

28329

DATE

1/13/23

PRESENTING CLINICAL SIGNS

History: Presented for elevated liver values. Asymptomatic.

-Abnormal PE/Chem/CBC/UA Results: CHEM: ALT >1000 and ALKP 278. (11/18/2022) CBC: RBC 5.21, HCT 32.5, HGB 10.9, MCH 20.9, RETIC 117.2, LYM 1.04. CHEM: ALT 685 and ALKP 217

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve leaflets are mildly thickened and elongated likely consistent with dysplasia. Trace mitral regurgitation. The left atrium is normal. There is a large defect in the atrial septum, consistent with an ostium primum ASD. Flow across the defect appears left to right (max not assessed). An endocardial cushion defect is not clearly visualized in this image set. Normal LV diameter with normal myocardial function. The LV walls are normal. The tricuspid valve leaflets appear mildly thickened with mild tricuspid regurgitation present. Severe right atrial dilation. Severe RV dilation. MPA and branches appear severely dilated. Normal pulmonic outflow velocities. The PV leaflets appear normal. No significant pulmonic insufficiency. The aortic valve appears to have normal morphology and mobility. Normal aortic outflow velocities. No pericardial or pleural effusion noted.

CARDIAC CHART

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	4.8	NM	NM	1.1	41	80	NM
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	100	1.1	1.3	5.0	1.2	1.7	1.1
*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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Complex congenital cardiac disease is present with a large ostium primum atrial septal defect (ASD). The mitral and tricuspid valves are both mildly abnormal, which may suggest a partial AV canal defect (the mildest form). A complete AV canal would also have a concurrent VSD, which is not clearly seen in this image set. The flow across the defect appears left to right on color flow despite severe right heart/MPA dilation. No obvious additional issues are identified; however, with this degree of anatomic distortion small abnormalities are easily missed without advanced



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imaging (such as a bubble study, angiogram, etc.). Given the severe and unusual nature of these findings, recommend referral to a local Cardiologist for advanced evaluation and lifelong monitoring. The goal would be to definitively understand the pathology and pressures within the heart, and ensure no additional defects are present. Likely there is no surgical option in this case.

SPECIES

Canine

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. If the shunt reverses (ie flow becomes right to left), cyanotic heart disease carries an additional set of challenges. If referral is declined, consider cardiac supportive medications as below in hopes of prolonging asymptomatic life. Prognosis is guarded to poor long term, although a 6yo dog without reported symptoms is a good sign.

BREED

Chihuahua

SEX

Male Neutered

It is certainly possible that right-sided congestion is contributing to elevated liver values, and follow up should be based upon the results of the AUS (ie If vascular congestion is suspected v other).

AGE

6 years

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

WEIGHT

11lbs

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

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

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).

IMAGING PERFORMED BY

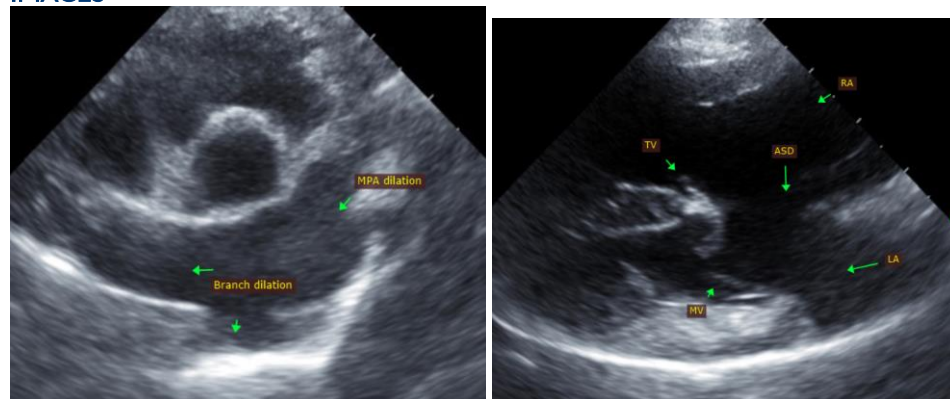
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If referral is declined, recommend recheck echocardiogram in 6-12 months sooner if any clinical signs develop.

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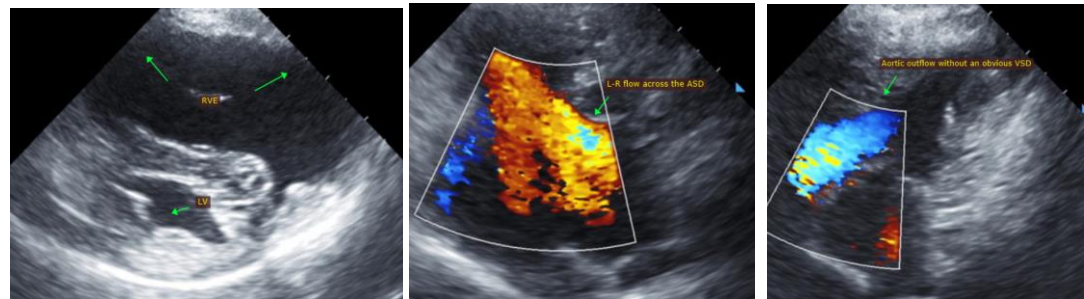
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Maggie Machen Lamy, DVM
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