



PATIENT

No Name Angels Left Behind

SPECIES

Canine

BREED

English Bulldog

SEX

Male

AGE

3 months

WEIGHT

9lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Rachel Runnells, RVT

HOSPITAL NAME

SVS Imaging KC

REFERRING VET

Dr. Lyle

INVOICE

20642

DATE

8/19/21

PRESENTING CLINICAL SIGNS

History: Saw different vet on 8/16 - PE findings: RR 50, pulse 130, large hernia extending from xiphoid extending past where normal umbilical hernia would be caudally. Palpated what felt like heart apex through hernia at xiphoid. Radiographs showed large mixed soft tissue opacity in area of heart. Small intestine seen coming from stomach forward toward ventral liver and diaphragm.

-Abnormal PE/Chem/CBC/UA Results: Today PE also included increased respiratory effort, HR 124, Grade 3-4/5 murmur with most intensity heard on R side.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve appears largely normal with no mitral regurgitation. Normal to mildly enlarged left atrium. Normal LV diameter with adequate myocardial function. The LV wall is normal. The tricuspid valve appears largely normal in form with no obvious tricuspid regurgitation present. Mild right heart enlargement. Mild elevation of pulmonic outflow velocities at the level of the valve with suspicion of mild stenosis. Color flow is suggestive of a continuous shunt, such as a PDA; however, this is not captured on Spectral doppler. Mild post-stenotic dilation of the main pulmonary artery. A small perimembranous VSD is suspected on color flow and 2D imaging. Velocity not measured. The aortic valve appears to have normal morphology and mobility. No pericardial or pleural effusion noted. Suspicion for a PPDH, although this is not confirmed.

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	NA	NA	NM	1.3	57	89	0.14
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	150	1.4	2.6	4.1	1.8	2.1	0.9
*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)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				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)

Adapted from June Boon, Veterinary Echocardiography, 1998
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435
Hansson et al, Vet Rad and Ultrasound 2002
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The presumptive diagnosis includes mild valvular pulmonic stenosis (PS) and a small restrictive VSD; however, this is not considered an extensive or diagnostic congenital scan. A PDA is not ruled out and may also be present. Additionally, a PPDH is suspected based upon the history and images provided, although not confirmed. Given the complexity of this case, **highly recommend referral to an Attending Cardiologist for advanced imaging as a definitive diagnosis is not confirmed here.** This will dictate therapy, prognosis and a plan going forward. This study is considered non-diagnostic, although complex congenital disease is clearly present.

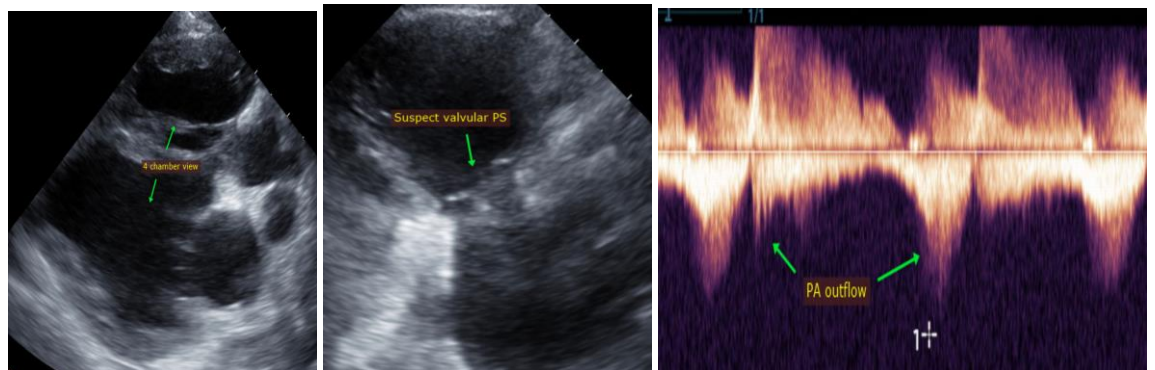
Monitor at home for symptoms including exercise intolerance, difficulty breathing, abdominal distention and/or syncope (fainting). Mild activity restriction is advised.

Elective anesthesia is not advised prior to further evaluation.

PLAN

Highly recommend referral to a local Cardiologist for chest radiograph evaluation, echocardiogram, +/- advanced imaging. No medications are indicated prior to a definitive diagnosis.

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.

Maggie Machen Lamy, DVM

Diplomate of the American College of Veterinary Internal Medicine (Cardiology)

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