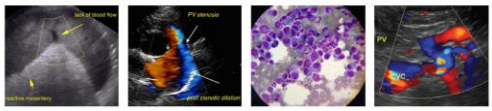
PAUS
Pet Animal Ultrasound Service
4paus.com 781-635-5677



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Polo Bassett

SPECIES
Canine

BREED
French Bulldog

SEX
Male Intact

AGE
1 year

WEIGHT
26.5lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Wignall Animal Hospital

REFERRING VET
Dr. Detelich

INVOICE
28113

DATE
1/5/23

PRESENTING CLINICAL SIGNS

History: Grade III/VI heart murmur; no clinical signs. Needs mass removal and neuter.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is normal with adequate myocardial function. LV wall thicknesses are normal. A perimembranous ventricular septal defect (VSD) is appreciated just below the aortic valve. The flow is left to right; max velocity 4m/s.
Left atrium: The left atrium is normal. The small jet of flow is seen crossing the intra-atrial septum, most consistent with a PFO.
Mitral valve: The mitral valve is normal with no mitral regurgitation.
Aortic valve/aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: The RV is mildly enlarged.
Right atrium: The RA is mildly enlarged.
Tricuspid valve: The tricuspid valve appears normal with mild tricuspid regurgitation.
Pulmonic valve/pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow.
Pericardium/other: No pericardial or pleural effusion noted. Small intestinal loops are noted within the thorax. No obvious cardiac masses.
Heart rhythm: ECG reveals a sinus rhythm with an average HR of 130bpm.

2-Dimensional Measurements

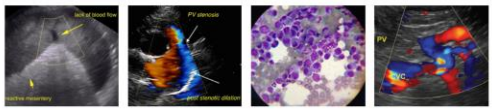
Ao diam (cm)	1.6
LA diam (cm)	1.7
LA:Ao (Swe)	1.1
IVS thickness (cm)	0.9
LVID diastole (cm)	3.4
PW thickness (cm)	0.9
LVID systole (cm)	2.3
FS (%)	33

Doppler Measurements

PV Vmax (m/s)	0.84
AoV Vmax (m/s)	1.2
MR Vmax (m/s)	NA
TR Vmax (m/s)	NM
TR PG (mmHg)	NM

INTERPRETATION OF THE FINDINGS

The cause of a murmur identified is a perimembranous ventricular septal defect (VSD). The defect is relatively small in dimension; however, the velocity is lower than expected (rule out increased RH pressures v malalignment). There is no evidence of left heart volume overload or mild relative pulmonic stenosis at this time. The right heart is mildly enlarged with small intestinal loops seen within the thorax consistent with a hernia. No structural cause for right heart enlargement is seen and this may suggest peripheral compression due to a potential hernia or potentially a normal variant. Given the complexity of the findings, advanced imaging may be warranted (such as thoracic CT scan) to assess general thoracic anatomy. As an alternative, reassessing the echocardiogram once the hernia is corrected may be beneficial to establish a true baseline. Finally, a small PFO (patent foramen ovale) is identified, which is essentially a small communication between the atria. This is hemodynamically insignificant. No additional issues are clearly visualized.



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Given the complexity of the findings, prognosis is guarded long-term. There may be a risk for shunt reversal in this case depending on results of follow up imaging. Patient may be risk for development of CHF, arrhythmias and/or additional complications going forward.

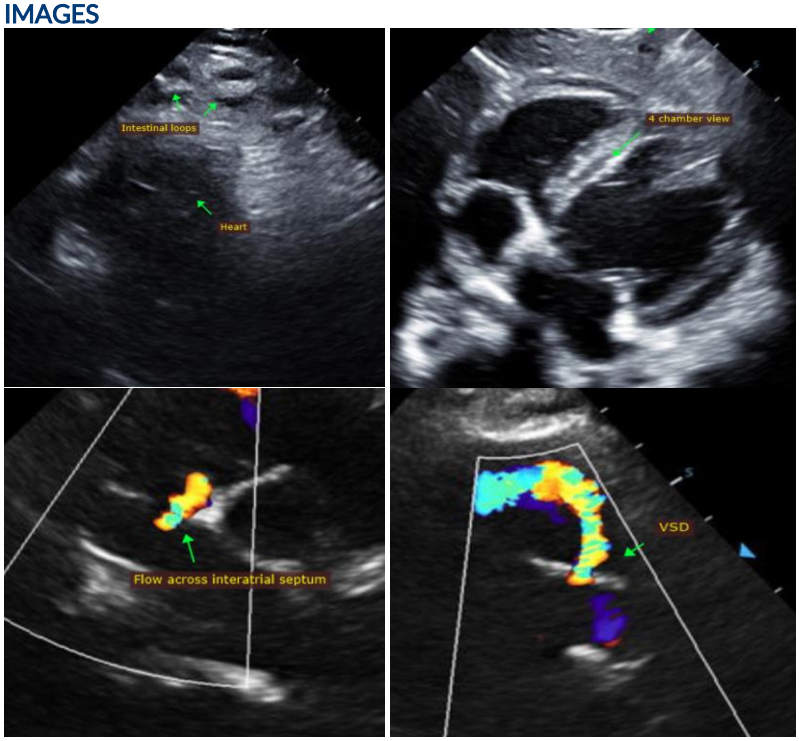
RECOMMENDATIONS

- Consider referral for advanced imaging such as three view CXR, CT scan, etc. If declined, reassessing the echo once the hernia is corrected is suggested.
- No medications are indicated.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Anesthetic risk is considered mildly elevated if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

- Recommend conservative monitoring with a recheck echocardiogram in 6-12 months, sooner if any development of clinical signs.

IMAGES



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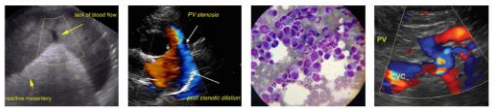

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com