PAUS Pet Animal Ultrasound Service
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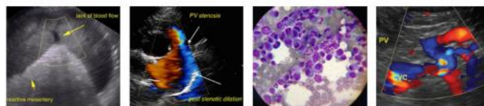


SonoPath Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Gus Dupuis

SPECIES
Feline

BREED
Persian

SEX
Male Neutered

AGE
5 years

WEIGHT
11.6lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Anchor Animal Hospital

REFERRING VET
Dr. Pietsch

INVOICE
22638

DATE
2/17/22

PRESENTING CLINICAL SIGNS

History: History mild LVH, SAM and normal LA size on prior echocardiogram (IDEXX) - LA:Ao 1.56; IVS 0.58-0.60 cm; OW 0.71 cm. Currently, no medications. On exam, grade I/VI systolic murmur. Mild hypercalcemia; ProBNP 338. Cat is doing well clinically. BP: 160-170mmHg.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is normal with adequate myocardial function. The LV wall thicknesses are mildly increased with regions of irregularity. There is a diffusely hyperechoic endocardium consistent with mild fibrosis. False tendons. The papillary muscles are mildly remodeled and hyperechoic. The endocardium appears mildly remodeled.
Left atrium: The left atrium is mild to moderately enlarged and bulbous in appearance. No obvious spontaneous contrast or thrombi seen.
Mitral valve: The mitral valve is normal; however, there is mild systolic anterior motion appreciated. No MR.
Aortic valve/Aorta: The aortic valve is quadricuspid, with suspicion for mild stenosis. The aortic outflow velocities are only minimally elevated; however, there is dilation of the ascending aorta. No aortic insufficiency.
Right ventricle: Normal right ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension.
Right atrium: The right atrium is normal in dimension.
Tricuspid valve: The tricuspid valve appears normal with no 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. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	0.8
LA diam (cm)	1.4
LA:Ao (Swe)	1.8
IVS thickness (cm)	0.66
LVID diastole (cm)	1.5
PW thickness (cm)	0.59
LVID systole (cm)	0.75
FS (%)	50

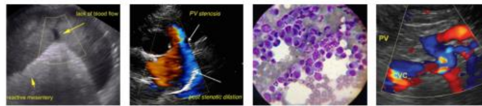
Doppler Measurements

PV Vmax (m/s)	0.83
AoV Vmax (m/s)	2.0
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

INTERPRETATION OF THE FINDINGS

Compared to the prior study, there is evidence of mild progression. The aortic valve is highly abnormal with 4 cusps instead of 3. There is also mild systolic anterior motion present; however, the combined problems are only causing mildly elevated aortic outflow velocities. The ascending aorta is mildly dilated and the LV mildly hypertrophied, which are both likely secondary. The LA is mild to moderately enlarged, indicating there is risk for issues going forward. No additional issues are identified.

These findings are unusual, and prognosis is difficult to predict. In people, aortic valve abnormalities can accompany primary aortopathies. If that is the case here, the patient may be at risk for aortic aneurysm or aortic dissection (both which may cause acute sudden death). This is rare to see in small animals, making it difficult to understand long



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term implications. Prognosis is guarded, as there will always be risk for progression to CHF, development of blood clot events, malignant arrhythmias and/or sudden death going forward.

While no medications have been shown to definitively alter long term outcome at this stage of disease, atenolol is often initiated to decrease the outflow obstruction. Initiation can be certainly if the patient is easily medicated. Additionally anti-coagulation using Plavix can be considered as well (NOTE: medication very bitter), given both the valve abnormality and possible aortopathy. Alternatively, simple follow up is also reasonable.

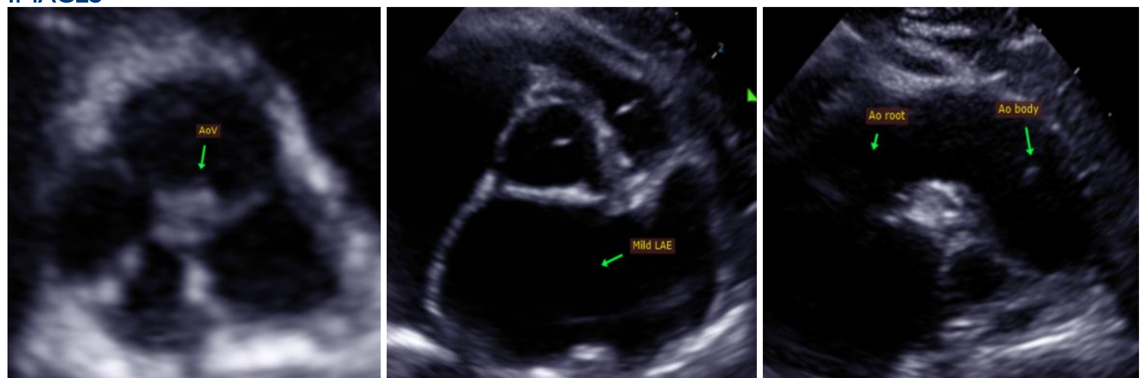
RECOMMENDATIONS

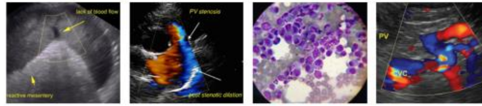
- Lifelong monitoring of BP is recommended (q6 months), as concurrent hypertension may be a debilitating issue in this case.
- If elected, administer titrating dose of atenolol: 25mg tablets; Give ¼ tab once daily. Recheck heart rate in 1-2 weeks with target stressed rate of 140-160bpm 12-24 hours post-administration. Increase as needed until target reached.
- If elected, administer Plavix (Clopidogrel) 75mg tabs, ¼ tab PO SID (NOTE: very bitter on cut edge; coat or wrap in entirety to avoid foaming at the mouth).
- Anesthetic risk is mildly elevated with risk for fluid overload, spontaneous CHF, hypotension, etc. Judicious IV fluid rates are advised to avoid fluid overload. Drugs that stimulate heart rate should be avoided unless clinically necessary (glycopyrrolate, atropine). Avoid ketamine, telazol, acepromazine and Dexdomitor. A reasonable protocol includes opioid/benzodiazepine premedication, propofol induction, isoflurane maintenance.
- Prophylactic antibiotics should be initiated 2-3 days prior to any surgical event due to a relatively elevated risk for endocarditis.
- **Monitor** for any clinical evidence of cardiac compromise, including respiratory changes and/or signs of a blood clot event (paralysis, neurologic changes, etc.).

PLAN

- Recommend recheck echocardiogram in 6-12 months to reassess murmur origin and screen for development of disease the pre-existing murmur may mask.

IMAGES





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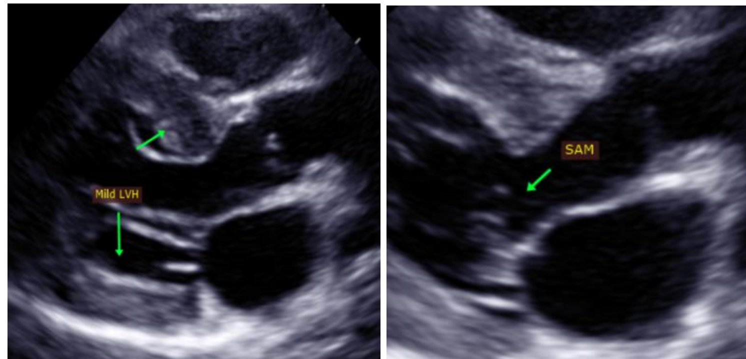

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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