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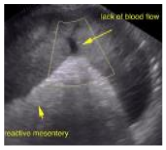
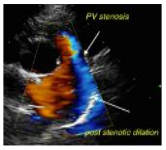
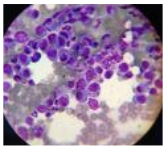
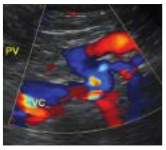
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Bruce Dukes

SPECIES
Feline

BREED
DLH

SEX
Male Neutered

AGE
5 years

WEIGHT
13.10lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Amanda Crook, SDEP

HOSPITAL NAME
Rivers Edge Pet Medical Center

REFERRING VET
Dr. Hayes

INVOICE
20771

DATE
8/26/21

PRESENTING CLINICAL SIGNS

History: Recent history of urolithiasis, was seen at rDVM beginning of the month diagnosed with cystitis. Put on onsior and clavamox. Seen at ER last week for bladder obstruction, diagnosed with uroliths. U-cath was passed under anesthesia, patient stayed in the ER for 24 hours and was released. Started on prazosin, urinary SO diet, gabapentin. Patient seen today here for bladder obstruction. No previous issues. Patient has grade II/VI heart murmur, otherwise exam results WNL. ECG WNL.
-Current Medications: Buprenex, gabapentin, prazosin.
-Abnormal PE/Chem/CBC/UA Results: Creatinine 2.3, otherwise WNL Urinalysis shows some hematuria, USG 1.042. Lateral abdominal films show multiple uroliths in bladder and in urethra (after u-cath passed), most measure 0.2 cm x 0.15 cm.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is severely hypertrophied. Obliteration of the LV chamber. There is a diffusely hyperechoic endocardium consistent with fibrosis and ventricular remodeling. Papillary muscle hypertrophy. The right ventricle is subjectively normal in size and morphology. There is mild left atrial enlargement present. No right atrial enlargement present. Mildly elevated RVOT velocity. There is significant systolic anterior motion (SAM) of the mitral valve present, with an elevated LVOT velocity (dynamic profile). There is moderate eccentric mitral regurgitation present secondary to SAM. Normal MR velocity. No TR. No other obvious valvular regurgitation is present. There is no pericardial effusion noted. No pleural effusion appreciated.

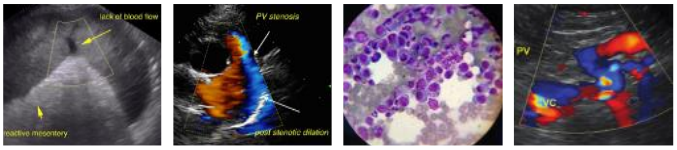
CARDIAC CHART

FELINE CARDIAC PARAMETERS	**BODY WEIGHT** (kg)	**HR** (BPM)	**IVSd** (cm) (Moise, Pipers)	**LVIDd** (cm) (Moise, Pipers)	**LVWd** (cm) (Moise, Pipers)	**FS** (%)	**EF** (%)
NORMAL PARAMETER	------	150-240	0.35-0.55	<2 (mean 1.5)	3.5-0.55	35-67	80-100
PATIENT	5.9	260	0.87	0.8	1.2	65	94
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**LA/AO HEART BASE (Swe)** (Abbott)	**LA** 2D short axis Base view (cm) (Abbott)		**LVOT VEL** (m/s)	**RVOT VEL** (m/s)	**E max** (m/s)
NORMAL	<1.5	<1.3	<1.2		<1.6	<1.3	<0.9
PATIENT	1.5	1.5	1.44		4.0	2.4	NM

**Note: All measurements based upon multi-modal images and methods. An average value is reported.*
Adapted from June Boon, Veterinary Echocardiography,1998
Abbott J & MacLean H JVIM 2006;20: 111-119, Moise et al. Am J Vet Res 47:1476, 1986. Pipers et al. Am J Vet Res 40:882, 1979.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The diagnosis is hypertrophic obstructive cardiomyopathy. While the LV hypertrophy is severe, mild left atrial enlargement is present, indicating the risk for spontaneous CHF and/or a



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thrombotic event is low, but may be elevated in the future. A screening BP and T4 are recommended every 6 months, as both can exacerbate disease.

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 (particularly in light of tachycardia). Given the degree of hypertrophy and mild LA dilation, highly recommend initiate at this time as below. If there is difficulty medicating at home, an alternative approach would be closely monitoring for progression in the next 6 months.

Anesthetic risk is considered mild; however, this patient is certainly at high risk for fluid intolerance. Judicious IV fluid rates are advised to avoid fluid overload with close monitoring of breathing rates. Additionally, drugs that stimulate heart rate should be avoided unless clinically necessary (glycopyrrolate, atropine). Avoid vasodilators as this may worsen the obstruction. A reasonable protocol includes opioid/benzodiazepine premedication, propofol induction, isoflurane maintenance.

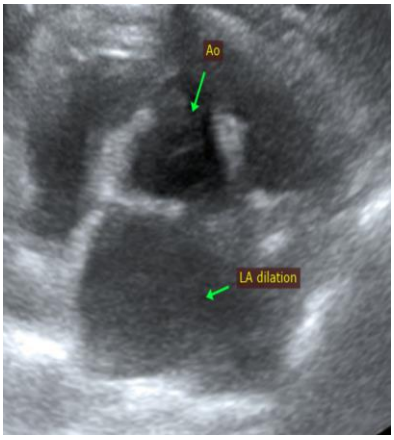
Monitor at home for any respiratory signs or blood clot events (neurologic change, paralysis, etc.) in the future.

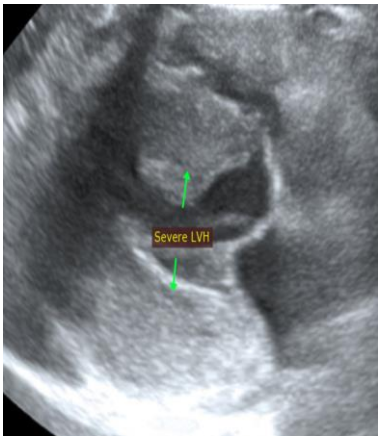
PLAN

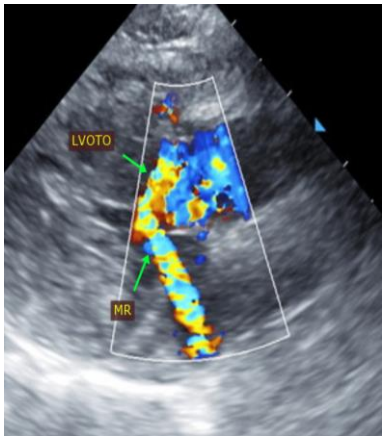
Screening BP/T4 every 6 months. Administer titrating dose of atenolol: 25mg tablets; Give ¼ tab once daily. Recheck heart rate in 1-2 weeks with target stressed rate of 140-160bpm 12-24 hours post-administration. Increase as needed until target reached.

Recommend recheck echocardiogram in 6 months to assess for progression, sooner if clinical issues arise.

IMAGES







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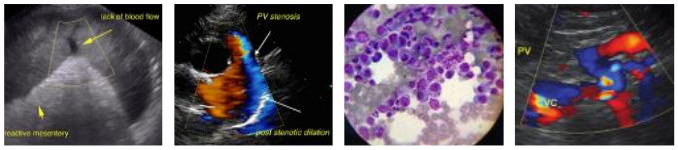

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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