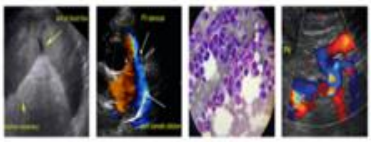
Mass Veterinary Services



SonoPath Clinical Sonography & Telecytology
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1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Bentley Korenkiewicz

SPECIES
Canine

BREED
maltese

SEX
Male Intact

AGE
9 years

WEIGHT
11.13lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
22309

DATE
12/7/21

PRESENTING CLINICAL SIGNS

History: Bentley was noted to have a cough as well as a heart murmur in August. A ProBNP done at that time was elevated at 4308. He has been started on enalapril and hycodan, although the owner does not feel the hycodan is helping much with regards to the cough. Bentley was not eating dog food, so the family has been feeding him table food which he is eating a bit better. He continues to cough a great deal. CV/RESP: NSR, grade IV-V/VI murmur with PMI left apical area radiating to right with grade II-III/VI murmur noted on right, PSS, lung fields clear, no cough with tracheal pressure but continuous, honking, wheezy cough noted during exam. BP: 210mmHg x 5. Medications: 1) Enalapril 2.5mg 1 tab in pm 2) Hydrocodone with homatropine 5mg 1/4 tab 2-3 times a day 3) fish oil daily *Sedated with propofol for study.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is severely increased with adequate myocardial function. LV wall thicknesses is normal. Systolic function is adequate.
Left atrium: The left atrium and auricle are markedly dilated.
Mitral valve: The mitral valve is diffusely thickened with prolapse into the left atrial lumen. Suspicion for a ruptured chord. Severe eccentric mitral regurgitation with a decreased velocity.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: The right ventricle is dilated with no significant hypertrophy.
Right atrium: Severe RA dilation. No evidence of tamponade.
Tricuspid valve: The tricuspid valve appears thickened with septal prolapse and severe tricuspid regurgitation. Normal velocity.
Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow.
Pericardium/other: Mild volume pericardial effusion noted. Scant ascites seen on subcostal views. No obvious cardiac masses.
Heart rhythm: ECG reveals a sinus rhythm with an average HR of 180bpm.

2-Dimensional Measurements

Ao diam (cm)	1.2
LA diam (cm)	4.4
LA:Ao (Swe)	3.5
IVS thickness (cm)	0.64
LVID diastole (cm)	4.0
PW thickness (cm)	0.66
LVID systole (cm)	2.2
FS (%)	45

Doppler Measurements

PV Vmax (m/s)	0.5
AoV Vmax (m/s)	0.68
MR Vmax (m/s)	4.0
TR Vmax (m/s)	2.9
TR PG (mmHg)	34

INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease causing severe mitral and tricuspid regurgitation. Marked 4 chamber dilation indicates the risk for biventricular congestive heart failure is elevated. No significant pulmonary hypertension is noted. The appearance of the mitral valve is most consistent with a ruptured chord, which further exacerbates risk for decompensation.

Most importantly, significant pericardial effusion (PCE) and ascites are identified which indicates instability. In a patient with this degree of heart disease, PCE is most commonly

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either due to a small left atrial tear (leading to hemorrhage into the pericardial space) or right ventricular failure. Either is possible in this patient with both massive LA dilation and right heart enlargement; however, the **latter is suspected due to concurrent ascites, lack of tamponade and no chronic collapse history.** A historical cough is assumed to be secondary to cardiomegaly and fluid retention; however, concurrent airway disease is also possible. Strict activity restriction and supportive care is advised until the fluid is able to reabsorb, as there is a high risk for decompensation. If any syncope/decompensation occurs acutely in the future, then the amount of PCE should be reassessed.

Given the instability of this patient, consider hospitalization for stabilization is recommended to give the best chance at a positive short-term outcome. It should be noted that even if we are able to stabilize this patient, the prognosis is poor to grave long term, with a predicted survival time of <6 months. Patient will always be at high risk for spontaneous biventricular CHF, LA tear, progressive cough and/or malignant arrhythmias/sudden death in the future.

The BP is severely elevated, and should be reassessed once the patient is stabilized.

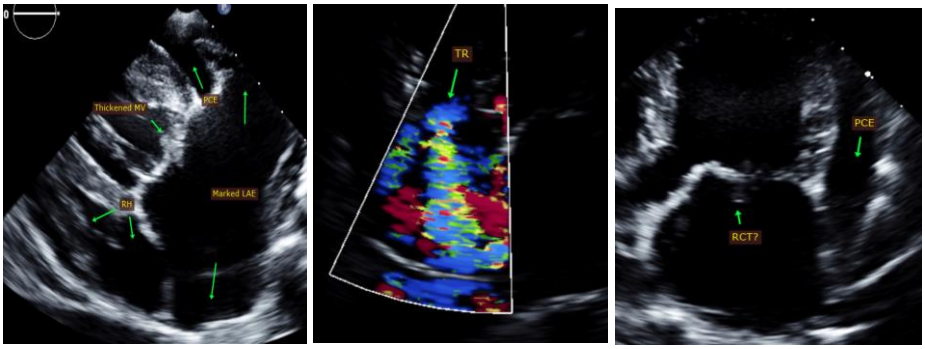
RECOMMENDATIONS

- Consider hospitalization for O2 therapy and monitoring overnight.
- Institute Furosemide 2mg/kg PO q12h.
- Institute Pimobendan 0.3mg/kg PO q12h.
- Institute Spironolactone 1-2mg/kg PO q12h.
- Continue ACEI as prescribed.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Elective anesthesia is not advised.
- Strict activity restriction.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

- Recheck BP and renal panel in 1-2 weeks, then every 3-4 mo lifelong. If BP is persistently elevated independent of stress level (ie >180mmHg), full work up for causes of SHT is recommended with use of amlodipine if indicated.
- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

IMAGES



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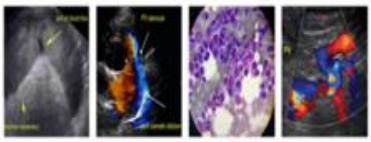

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

Echocardiogram performed by: Pamela Harrigan, RDCS
Pet Animal Ultrasound Service (4paus.com)