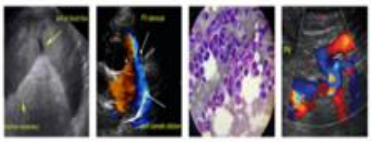
Mass Veterinary Services



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

PATIENT
Santino Santaniello

SPECIES
Canine

BREED
Maltese

SEX
Male Neutered

AGE
13 years

WEIGHT
10.25lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
29128

DATE
2/21/23

PRESENTING CLINICAL SIGNS

History: Recheck echo. History chronic valvular disease - Stage B2. Presently, Santino started having collapsing episodes earlier this month. Chest films taken on the 16th were not consistent with CHF. Santino's pimobendan was increased to three times a day for suspected pulmonary hypertension and he seems to be doing better. His coughing is limited to after drinking. He continues to eat in his normal fussy fashion with normal activity. On exam: NSR, grade IV/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear, no cough with tracheal palpation, mm pink, moist, CRT<2. BP: 140-160mmHg. Labs assessed (2/14/23): BUN: 46, P: 6.8, K: 6.1, NA: 139, Creat: 1.0. Current medications: 1) Pimobendan 1.25mg 1 tab three times a day 2) Glucosamine 1 capsule EOD 3) Hycodan 5mg 1/4 tab three times a day 4) Multivitamin 1/2 tab daily 5) Snip tips every other day 6) Ursodiol/actigal 250mg 1/4 tab with food once a day *Study was started without sedation; propofol started during study.
-Pertinent previous echo findings (11/9/22 MML): LA 1.8; LA:Ao 1.7; LV 2.2 cm; IVS 0.60 cm; PW 0.70 cm; mild LVE; mild-moderate LAE; moderate-severe MR; trace TR (2.7 m/s; 30mmHg).

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is assessed both before and after the echocardiogram; 25mm/s, 10mm/mV. The average heart rate is 130bpm (range 75-150bpm). No significant pauses or other dysrhythmias observed.
ECG diagnosis: Profound respiratory sinus arrythmia.
*Following the echo/sedation the findings appear similar with a decrease in resting heart rate and more significant sinus pauses. Baseline artifact; however, no obvious AV block seen.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is decreased with adequate myocardial function. LV wall thicknesses are increased consistent with pseudohypertrophy.
Left atrium: The left atrium is mild to moderately dilated.
Mitral valve: The mitral valve is markedly thickened with marked prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with a normal velocity.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Increased aortic outflow velocity with a dynamic profile. No aortic insufficiency.
Right ventricle: Normal right ventricular diameter and morphology.
Right atrium: Normal RA dimension.
Tricuspid valve: The tricuspid valve appears normal with trace tricuspid regurgitation. Mildly elevated velocity, consistent with early pulmonary hypertension.
Pulmonary 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.

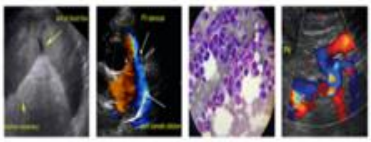
2-Dimensional Measurements

Ao diam (cm)	1.2
LA diam (cm)	2.0
LA:Ao (Swe)	1.7
IVS thickness (cm)	0.86
LVID diastole (cm)	1.7
PW thickness (cm)	0.84
LVID systole (cm)	0.83
FS (%)	53

Doppler Measurements

PV Vmax (m/s)	1.0
AoV Vmax (m/s)	3.9
MR Vmax (m/s)	5.9
TR Vmax (m/s)	3.1
TR PG (mmHg)	39

Mass Veterinary Services



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

PATIENT
Santino Santaniello

SPECIES
Canine

BREED
Maltese

SEX
Male Neutered

AGE
13 years

WEIGHT
10.25lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
29128

DATE
2/21/23

INTERPRETATION OF THE FINDINGS

Compared to the prior study, findings are significantly different. Previous diagnosed moderate value disease persists; however, the left ventricle has a volume contracted appearance. The chamber size is decreased comparatively with increased wall thickness, which is most consistent with pseudohypertrophy. Additionally, there is now an LVOT obstruction, which is suspected to be a secondary phenomenon due to the LV/volume changes. This is speculative and reassessment in the future will be helpful to determine persistence. The LA is unchanged, indicating relatively low risk for acute complication. Finally, mild pulmonary hypertension has developed, which was not noted on the prior exam.

The ECG is most consistent with profound respiratory sinus arrythmia, which was noted previously. There are some significant sinus pauses; however, no obvious AV block or other abnormalities appreciated. Consider reassessment once the patients' clinical issues have resolved, especially if syncope persists undiagnosed.

Given these findings, reassessing lab work is recommended, including a CBC, chemistry and UA ASAP. It is difficult to know at this juncture if the collapse episodes are cardiogenic in origin or simply reflect systemic/hematologic changes. If anemia and/or significant dehydration are ruled out, consider a course of Sildenafil if syncopal episodes are still occurring. This is unlikely to be the cause; however, benign to investigate. Finally, the LVOTO must also be considered; however, the patient has a low resting heart rate and Atenolol is likely contraindicated. If syncope persists, consider a holter monitor to determine if heart rate variability is present that is not acknowledged in hospital.

Prognosis is guarded long-term prior to further assessment.

RECOMMENDATIONS

- Continue Pimobendan and Hydrocodone as prescribed.
- Immediate reassessment of blood volume as discussed.
- If hematologic abnormalities are ruled out, consider a trial of Sildenafil 1-2mg/kg PO q8h for 1-2 weeks.
- If Sildenafil is not beneficial and syncope persists, a holter monitor should be considered.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Anesthesia is not advised until further evaluation is explored.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

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

Mass Veterinary Services

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

PATIENT
Santino Santaniello

SPECIES
Canine

BREED
Maltese

SEX
Male Neutered

AGE
13 years

WEIGHT
10.25lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

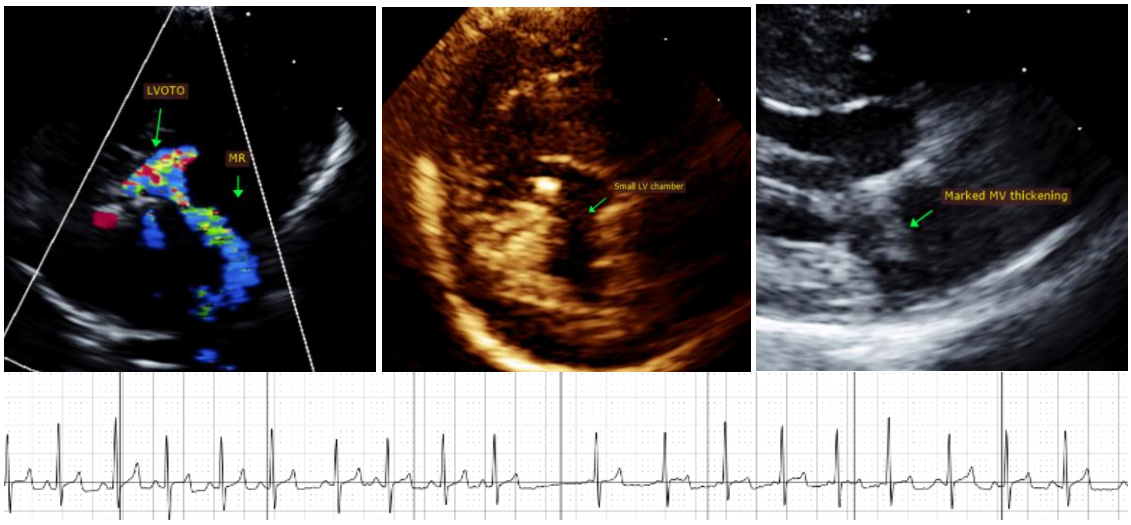
HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
29128

DATE
2/21/23

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)
info@sonopath.com

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