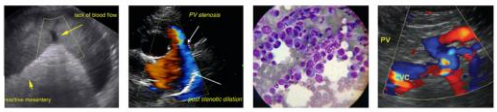
Mass Veterinary Specialty Services
1-413-734-1292



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

PATIENT

Bronson Szczepanek

SPECIES

Feline

BREED

DSH

SEX

Male Neutered

AGE

13 years

WEIGHT

15.3lbs

INTERPRETED BY

Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan, RDCS

HOSPITAL NAME

Mass Veterinary Specialty Services

REFERRING VET

Dr. Masloski

INVOICE

21712

DATE

10/26/21

PRESENTING CLINICAL SIGNS

History: Bronson was noted to have an arrhythmia in August. A thyroid level at that time was unremarkable. His calcium level, however, was elevated at 11.9. He is currently doing well at home but the family has noted some abdominal effort to his breathing. Eating well with no noted C/S/V/D/PU/PD. He does have a history of bladder stones. His activity remains normal. Bronson is exclusively indoors. Bronson had 200mg gabapentin ~ 2.5 hours prior to presentation. CV/RESP: transient arrhythmia, tachycardia as gets more annoyed, no murmurs noted, PSS, lung fields clear, compressible thorax . BP: 100 mmHg. *Sedated with propofol.

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

A single lead ECG is available; 25mm/s, 20mm/mV. Narrow complex tachycardia without identifiable p waves most consistent with a paroxysmal SVT; rapid sinus tachycardia is also possible. No breaks in the rhythm are seen.
ECG diagnosis: Supraventricular tachycardia; sustained- R/O atrial origin versus sinus.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is decreased with decreased myocardial function. The LV wall thicknesses are asymmetric, with a severely hypertrophied free-wall and a moderately increased septum. The papillary muscles are markedly hypertrophied and hyperechoic.
Left atrium: The left atrium is markedly dilated. Spontaneous contrast is readily identified. Concern for early thrombus formation in the auricle.
Mitral valve: The mitral valve is normal in structure and mobility. No systolic anterior motion is seen. Trace central mitral regurgitation.
Aortic valve/Aorta: Aortic valve is normal. Decreased outflow velocity, laminar flow. No AI.
Right ventricle: Right ventricular diameter is mildly increased. The right ventricular wall appears mildly hypertrophied.
Right atrium: The right atrium is moderately dilated.
Tricuspid valve: The tricuspid valve is normal.
Pulmonic valve/Pulmonary artery: The pulmonic valve appears normal in morphology and mobility. Decreased pulmonic outflow velocities with laminar flow. No PI.
Pericardium/other: Scant pericardial effusion. Large volume pleural effusion. No obvious cardiac tumors.
Heart rhythm: ECG reveals a sinus rhythm with an average HR of bpm.

2-Dimensional Measurements

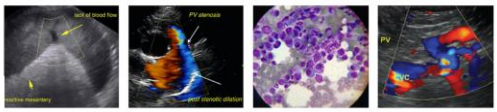
Ao diam (cm)	1.0
LA diam (cm)	2.3
LA:Ao (Swe)	2.3
IVS thickness (cm)	0.74
LVID diastole (cm)	1.14
PW thickness (cm)	0.98
LVID systole (cm)	0.81
FS (%)	27

Doppler Measurements

PV Vmax (m/s)	0.6
AoV Vmax (m/s)	0.73
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

INTERPRETATION OF THE FINDINGS

Hypertrophic cardiomyopathy (HCM) is a rule out diagnosis for LV hypertrophy once a patient is confirmed euthyroid and normotensive. Given the marked degree of thickening and RV involvement, primary disease is suspected. There is development of LV dysfunction, which is



PATIENT

Bronson Szczepanek

SPECIES

Feline

BREED

DSH

SEX

Male Neutered

AGE

13 years

WEIGHT

15.3lbs

INTERPRETED BY

Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan, RDCS

HOSPITAL NAME

Mass Veterinary Specialty Services

REFERRING VET

Dr. Masloski

INVOICE

21712

DATE

10/26/21

typical of end-stage disease. The left atrium is massively enlarged with evidence of smoke and concern for early thrombus formation, indicating high risk for spontaneous CHF and/or blood clot events. The right heart is also affected, with moderate RA dilation. These findings certainly confirm the origin of the effusions is congestive heart failure, with end-stage (aka burn out) disease identified.

In this highly unstable patient, immediate stabilization through hospitalization and thoracentesis is necessary (as was performed). Even if we are able to stabilize the situation, the mean survival time for cats at this stage of disease is less than 6 months. Patient will always be at high risk for recurrent episodes of CHF, development of blood clots, malignant arrhythmias and/or sudden death in the future. Depending on response to thoracocentesis, consider overnight stabilization/hospitalization if needed.

Full cardiac support is recommended as below, once the patient is adequately stabilized.

The ECG a rapid tachycardia; however, differentiation between an atrial tachycardia from sinus cannot be determined. An AT would imply that a malignant foci within the dilated atrial tissue has begun to fire inappropriately. The only way to know this type of rhythm from a rapid sinus tachycardia is assessing the onset of the rhythm; ie is there an acute onset versus gradual. Given the severity of disease and current crisis, either is possible. I would not treat this at this time; rather, reassess once the patient is stabilized in the next 5-7 days. If rapid SVT persists, a vagal maneuver or response to diltiazem may have to be utilized to determine origin and need for medication. If any collapse or decline occurs in the short term, immediate reassessment is advised.

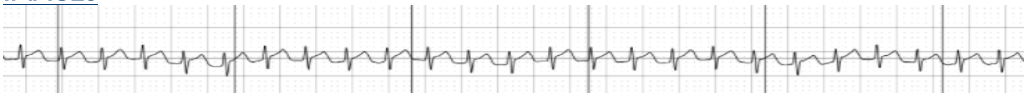
RECOMMENDATIONS

- Consider hospitalization as discussed.
- Initiate furosemide 1-2mg/kg PO q12h.
- Initiate Pimobendan 1.25mg PO q12h.
- Initiate Clopidogrel (Plavix) 75mg tabs, ¼ tab PO q24h (NOTE: This medication is bitter on the cut edge; coat in entirety).
- Monitor for any clinical evidence of cardiac compromise, including respiratory changes and/or signs of a blood clot event (paralysis, neurologic changes, etc.
- Elective anesthesia is not advised.
- If possible, avoid further steroid use in the future

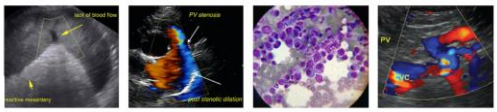
PLAN

- Recheck ECG, heart rate and blood pressure in 5-7 days. If residual effusion is noted, consider addition of spironolactone 1-2mg/kg PO q12h. Reassess ECG for SVT v sinus at this time.
- Recheck echocardiogram/ECG in 6 months to assess for progressive issues.

IMAGES



Mass Veterinary Specialty Services
1-413-734-1292



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

PATIENT

Bronson Szczepanek

SPECIES

Feline

BREED

DSH

SEX

Male Neutered

AGE

13 years

WEIGHT

15.3lbs

INTERPRETED BY

Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan, RDCS

HOSPITAL NAME

Mass Veterinary Specialty Services

REFERRING VET

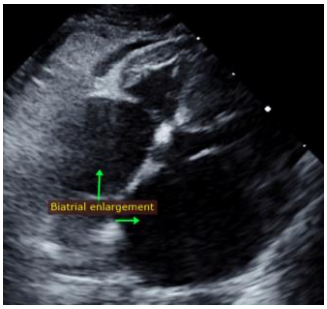
Dr. Masloski

INVOICE

21712

DATE

10/26/21



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. 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)