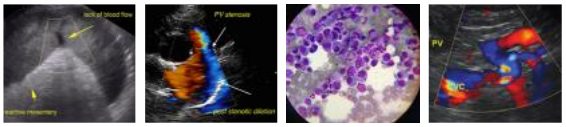
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com



ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
Jack Christensen

SPECIES
Canine

BREED
Corgi Mix

SEX
Male Neutered

AGE
16 years

WEIGHT
26.8lbs

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

IMAGING PERFORMED BY
Jenna Walsh, CVT

HOSPITAL NAME
The Veterinary Hospital

REFERRING VET
Dr. Yomanda

INVOICE
21709

DATE
10/25/21

PRESENTING CLINICAL SIGNS

History: Murmur since last year. Radiographs performed last year showed cardiac enlargement (11.5). Syncope in the past few months. PE findings at ER hospital earlier this month - HR: 171, RR: 40, T: 100.7, grade 3/6 murmur. BP w/ HDO with P in RLR. Sm cuff L front proximal to carpus- 202/113(144)P150, 199/108(140)P144, 185/100(130)P146, 233/78(131)P144. sdh
Abnormal PE/Chem/CBC/UA Results: Last labwork done 9/1/21 - CBC - NSFs - Hct 34.1% with elevated MCHC 38.6, WBC 6.98k with slight lymphocytosis 0.67, Plts 429k Comprehensive - BUN 39.9 with high-normal creatinine 1.4; ALKP >993 with no other elevated liver enzymes Lytes - WNLs T4 - WNLs at 2.5 SDMA - High-normal at 14.

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

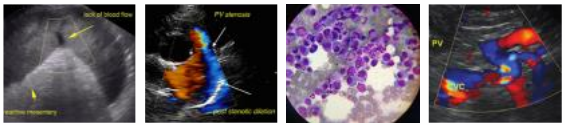
A single lead ECG is available; 25mm/s, 20mm/mV. The average heart rate is 150bpm with a largely regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Normal MR velocity. Moderately increased LV diameter with hyperdynamic myocardial function. The tricuspid valve appears mildly thickened with mild to moderate tricuspid regurgitation. Velocity normal. Normal right atrial and ventricular diameter and morphology. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No pulmonic and mild aortic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

CARDIAC CHART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	5.3	2.0	1.2	2.1	51	83	NM
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**LA** 2D short axis Base view (cm)	**LVIDd** Avg; 2D and m-mode short axis (cm)	**LVIDs** Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	150	2.0	1.1	12.2	3.3	3.7	1.8
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
Adapted from June Boon, Veterinary Echocardiography, 1998				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)



PATIENT
Jack Christensen

SPECIES
Canine

BREED
Corgi Mix

SEX
Male Neutered

AGE
16 years

WEIGHT
26.8lbs

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

IMAGING PERFORMED BY
Jenna Walsh, CVT

HOSPITAL NAME
The Veterinary Hospital

REFERRING VET
Dr. Yomanda

INVOICE
21709

DATE
10/25/21

Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435
Hansson et al, Vet Rad and Ultrasound 2002
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Significant left atrial enlargement indicates there is an elevated risk for spontaneous congestive heart failure going forward. A small aortic leak is noted, and baseline BP is highly recommended. No additional issues are identified. The ECG is unremarkable with a normal sinus rhythm.

Assuming the syncope is exertional, this is likely cardiogenic in origin. Possible causes include poor forward blood flow leading to hypoxia (suspected), early CHF (possible), significant pulmonary hypertension (not seen), an arrhythmia and/or blood pressure swings. In light of severity of disease on echocardiogram, recommend full lifelong cardiac supportive therapy as below in this instance. Highly recommend chest radiographs with radiologist review as well, particularly should there be any persistent change in RR/RE. If the episodes persist despite medications, consider a holter monitor, further systemic work up, etc.

Once in CHF, long term prognosis is guarded to poor, however most dogs are able to maintain a good QOL on medications for an average of 8-12 months. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or worsening collapse episodes in the future.

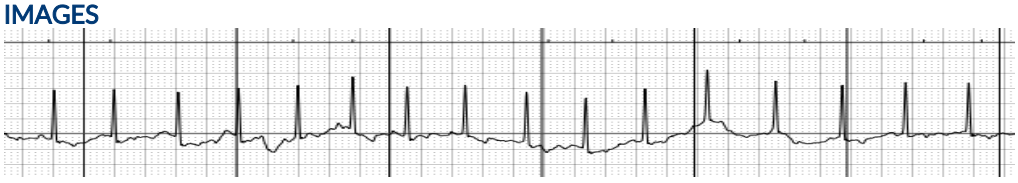
PLAN

CXR highly recommended. Administer Pimobendan 0.25-0.3mg/kg PO q12h. Administer spironolactone 1-2mg/kg PO q12h. Administer furosemide 1-2mg/kg PO q12h.

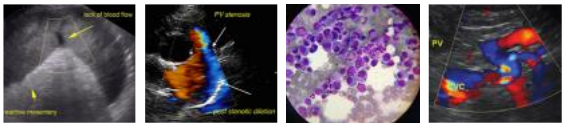
Monitor renal values and BP in 10-14 days, then every 3-4 months while on diuretics. If BP >130mmHg and patient is doing well at home, institute ACEI 0.5mg/kg PO q12h. If episodes persist, further evaluation including a holter may be indicated.

Recheck: Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of associated clinical signs occurs in the interim.

IMAGES



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



ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
Jack Christensen

SPECIES
Canine

BREED
Corgi Mix

SEX
Male Neutered

AGE
16 years

WEIGHT
26.8lbs

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

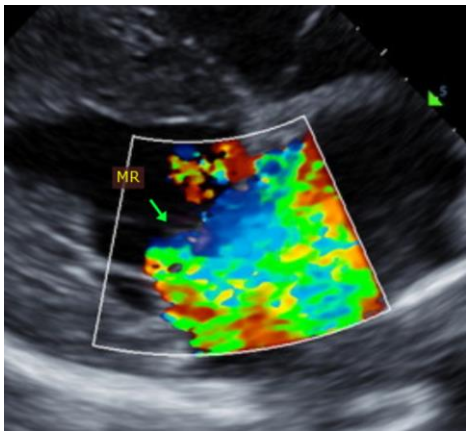
IMAGING PERFORMED BY
Jenna Walsh, CVT

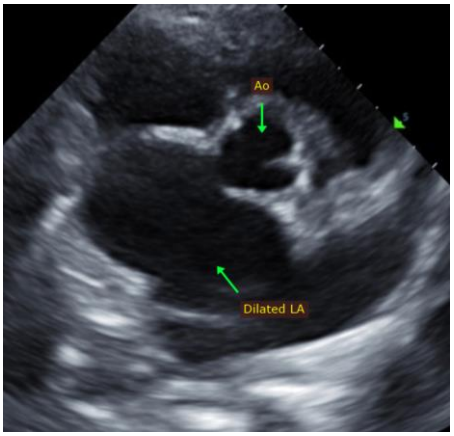
HOSPITAL NAME
The Veterinary Hospital

REFERRING VET
Dr. Yomanda

INVOICE
21709

DATE
10/25/21





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. 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