



PATIENT

Harper Kaphingst

SPECIES

Canine

BREED

Mix

SEX

Female Spayed

AGE

7.7 years

WEIGHT

50lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Tom McNeill

HOSPITAL NAME

SVS Imaging CT

REFERRING VET

Dr. Urbanik

INVOICE

24982

DATE

6/24/22

PRESENTING CLINICAL SIGNS

History: Grade 3-4/6 heart murmur. Intermittent VPCs on ECG report. On Saturday (06/18), Harper was playing fetch with her owner and had an episode of collapse in the yard; she fell onto her back and was paddling her legs in the air for ~5 seconds. She recovered rapidly and was normal the rest of the day. On Wednesday (06/22), Harper had an additional episode of collapse after going on a short walk with her owner - she fell while going up the few steps into the house. With both of these episodes, Harper appeared as if she was losing her balance before falling. The episodes were brief, and she appeared dazed for a short period of time before returning to her normal self. Her owners are not certain if she is conscious during these episodes. Over the past week, Harper's breathing has been more "huffy," and she has been heard gagging on a few occasions. Her respiratory effort seems to be worse with activity. She has been more lethargic than usual for the past month. She was evaluated by her primary veterinarian on 06/24; bloodwork (see TPN) and chest radiographs (not available at time of examination) were performed. The radiographs were concerning for cardiomegaly and possibly pericardial effusion, and she was referred for further assessment. Harper has a history of allergies and has been fed a grain free diet for multiple years.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with marked left atrial dilation. Decreased MR velocity. Severe LV dilation with increased sphericity and depressed myocardial function. The tricuspid valve appears normal, with mild TR. Normal velocity. Mild right atrial and ventricular dilation. The pulmonic and aortic valves are normal in morphology and mobility. Normal aortic and pulmonic outflow velocities with laminar flow. No AI or PI. 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	4.8	2.3	2.1	2.8	22	44	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	94	2.1	0.7	23.6	5.6	7.0	5.4
*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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				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)

Adapted from June Boon, Veterinary Echocardiography, 1998
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

**PATIENT**

Harper Kaphingst

SPECIES

Canine

BREED

Mix

SEX

Female Spayed

AGE

7.7 years

WEIGHT

50lbs

INTERPRETED BYMaggie Machen Lamy,
DVM, DACVIM
(Cardiology)**IMAGING PERFORMED BY**

Tom McNeill

HOSPITAL NAME

SVS Imaging CT

REFERRING VET

Dr. Urbanik

INVOICE

24982

DATE

6/24/22

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Marked left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. The LV is dilated with mildly depressed myocardial function. This may be secondary to CVD in a larger breed dog; however, the diet is obviously also a concern. Consider changing to a traditional diet going forward. No obvious additional issues are identified.

Given development of arrhythmias and severity of disease seen here, this patient is at exceedingly high risk for congestive heart failure and full medications are warranted lifelong as below. This does not address the arrhythmia, which likely warrants further therapy. The history is concerning for arrhythmogenic syncope and antiarrhythmic therapy is likely warranted.

Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Cough suppression to improve QOL can also be considered (hydrocodone, 0.2-0.4mg/kg up to q4-6h PRN) for any residual mechanical cough in the face of normal sleeping respiratory rates. The average survival time of canine patients with active pulmonary edema is 8-9 months on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

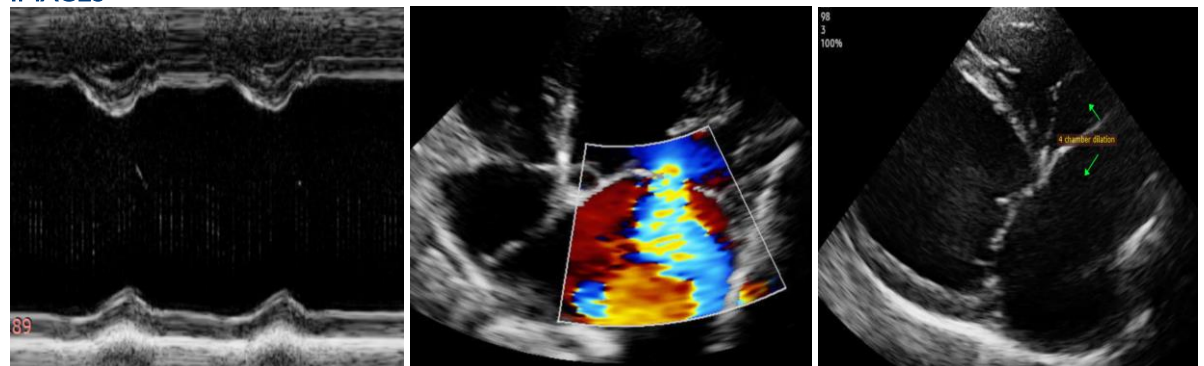
Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for acute progression of the cough, labored breathing, exercise intolerance or collapse episodes in the future.

PLAN

Institute Pimobendan 0.3mg/kg PO q12h. Institute Furosemide 1-2mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h. Institute Taurine 1000mg PO q12h. Diet change as discussed. **Follow up and treatment of the arrhythmia should be dictated by the ECG report.**

Monitor SRRs at home. Monitor renal values and BP in 10-14 days, then every 3-4 months while on diuretics. If doing well and BP >130mmHg, institute ACEI 0.5mg/kg PO q12h. Consider hydrocodone if needed for QOL.

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

IMAGES

IMAGING PERFORMED BY

svsmobileimaging.com 309 - 737 - 3070



EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT

Harper Kaphingst

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.

SPECIES

Canine

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.

BREED

Mix

Maggie Machen Lamy, DVM
 Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
 info@sonopath.com

SEX

Female Spayed

AGE

7.7 years

WEIGHT

50lbs

INTERPRETED BY

Maggie Machen Lamy,
 DVM, DACVIM
 (Cardiology)

IMAGING PERFORMED BY

Tom McNeill

HOSPITAL NAME

SVS Imaging CT

REFERRING VET

Dr. Urbanik

INVOICE

24982

DATE

6/24/22