



PATIENT

Mia Schwabe

SPECIES

Canine

BREED

Terr/Mix

SEX

FS

AGE

3 Years

WEIGHT

36.4 lbs

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP
(Canine and Feline)

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging

REFERRING VET

Dr Seneczko, Genoa
Animal Hosp

INVOICE

47627

DATE

10-3-21

PRESENTING CLINICAL SIGNS

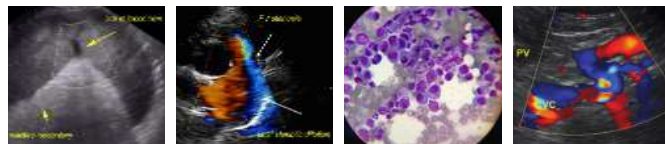
Thoracic radiographs show global heart. Coughing for 1 week with increased heart rate and respiratory rate at rest with end inspiration crackling lung sounds. Increased perihilar fluid density, Increased interstitial pattern. Loss of heart border ventrally due to fluid density. Increased thickening of liver. Possible thickened stomach. Caudal displacement of stomach. She is on Furosemide 20mg. 2 tabs every 12 hours. Dose may change based on cardiac recommendations.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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	4.0	3.0	3.4	3.8	5%	18.9	2.4
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	200	1.0	< 1.0		5.6	6.6	

Cardiac Presentation

The echocardiogram for this patient presented excessive **left atrial size** expressed both in the LA/AO and LA max measurements in the table below. Left atrial content was anechoic. No evidence of "smoke" or thrombotic activity was noted. The atrial septum was deviated owing to volume overload and increased left atrial pressure. The cranial and caudal **mitral** valve leaflets presented normal linear structure yet insufficiency was noted. No significant dystrophic or vegetative changes were noted. The **left ventricle** demonstrated excessive volume (LVIDd measurement below). Ventricular function was subnormal expressed by the fractional shortening measurement listed below. Myocardium appeared subjectively thin typical of DCM. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** exhibited mild subjective enlargement without significant overload. No neoplastic evidence was visualized here. The **tricuspid valve** was found to be linear with proper extension, length and closure but insufficiency was also evident and clinically significant owing to annulus stretch from volume overload and increased pulmonary resistance. The **right ventricle** demonstrated subjective normal size without overt volume overload. The **pulmonic outflow** tract presented dilation and prominent pulmonic volume. Correlation with previous abdominal study consistent with probable congestive hepatopathy. This presentation is most consistent with Dilated Cardiomyopathy (DCM) with left and right-sided volume overload, left and emerging right congestive heart failure with pulmonary hypertension. Systemic factors such as hypothyroidism or systemic disease that negative influences the myocardial contractility may also be playing a role in the presentation. No evidence of arrhythmogenic disease.



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ULTRASONOGRAPHIC FINDINGS

- DCM-like cardiomyopathy with severe LA/LV volume overload and severe LV systolic dysfunction.
- Mitral and tricuspid valve insufficiency - estimated pulmonary pressure gradient consistent with mild to potential moderate pulmonary hypertension.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Unfortunately, this patient has severe cardiomyopathy and systolic dysfunction. This is causing significant primarily left heart volume overload with probable secondary increased pulmonary pressures and mild to moderate pulmonary hypertension. Systolic failure may be primary in nature (DCM) or secondary to things such as taurine deficiency, myocarditis, metabolic disease, or less likely infiltrative disease such as lymphoma.

Further assessment may include full dietary history to assess for potential grain-free/boutique diets troponin level and full bloodwork, if not done, to assess for evidence of metabolic disease. ECG and blood pressure assessment advised. Medical therapy is indicated yet even if response to medications is good, this patient will continue to be at high risk for recurrent CHF or potential malignant arrhythmias. Hospitalization for stabilization or potential referral for 24 hour supportive care may be considered. Furosemide spironolactone combination at 1-2mg/kg po bid, Pimobendan 0.3 mg/kg po bid initially (tid therapy may be required in this patient) +/- taurine supplementation if clinically indicated recommended. If blood pressure is greater than 130, ace inhibitor medication may also be considered. Recheck echocardiogram recommended in 1-2 months, sooner if continued CHF is noted. Very guarded to unfavorable long term prognosis; however, is indicated.

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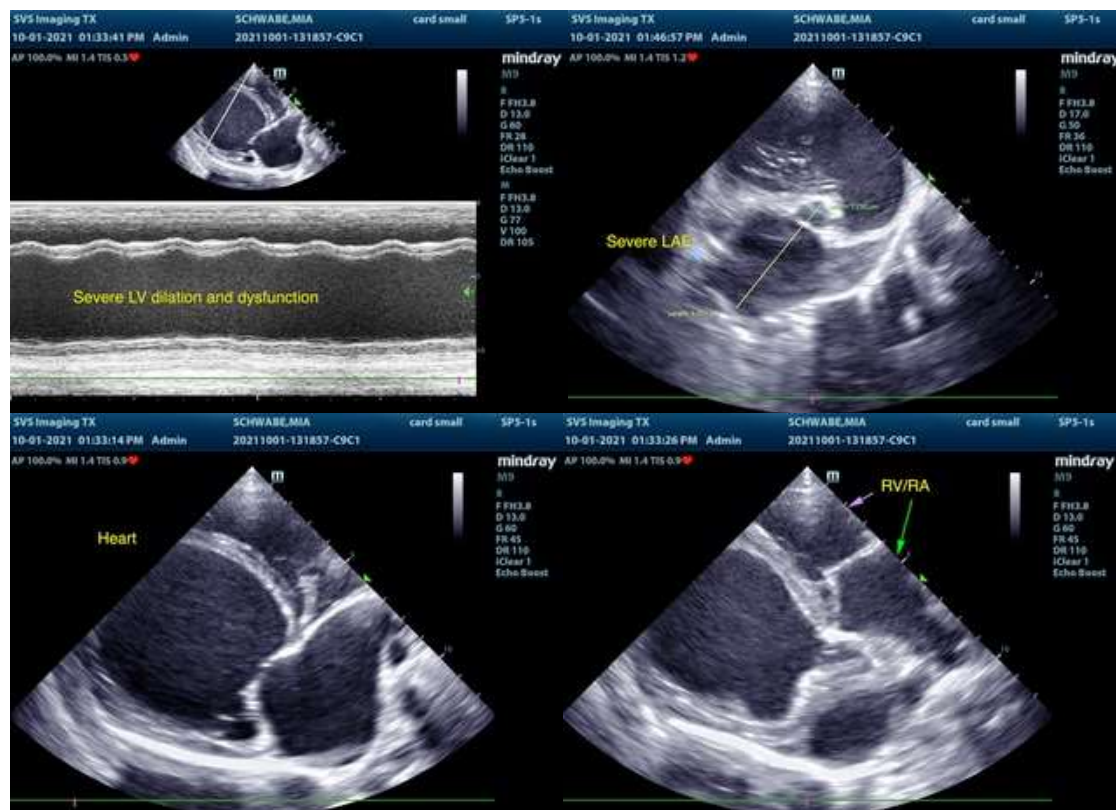
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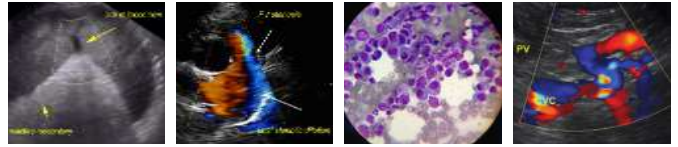
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com

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