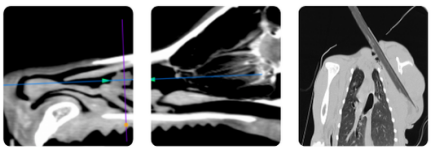


PATIENT

Jacob Makuch

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

13 Years

WEIGHT

9.8 kg

INTERPRETED BY

James Wood, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Vetopia AH

REFERRING VET

Dr. Awad

INVOICE

37163

DATE

5/21/26

PRESENTING CLINICAL SIGNS

History: Hepatomegaly on rads, cardiomegaly on rads, possible pulmonary vascular congestion and possible emerging pulmonary edema and emerging heart failure? Suspect diverticular mineralization likely secondary to chronic renal disease. No meds.

Abnormal PE/Chem/CBC/UA Results: Please read attached ECG. RBC 4.8 5.9-9.9 1012/L LOW Hemoglobin 78 93-159 g/L LOW Hematocrit 24 29-48 % LOW Amylase 1248 100-1200 U/L HIGH Sodium/Potassium Ratio 30 32-41 Ratio LOW Glucose 11.4 3.5-9.4 mmol/L HIGH.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

FELINE CARDIAC PARAMETERS	**BODY WEIGHT** (kg)	**HR** (BPM)	**IVSd** (cm)	**LVIDd** (cm)	**LVWd** (cm)	**FS** (%)	**EF** (%)
NORMAL PARAMETER	------	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	9.8	170	0.5	1.35	0.61	37.7	83.7
FELINE CARDIAC PARAMETERS	**LA/AO** (M-mode)	**LA/AO HEART BASE** (Sisson)	**LAD** LA MAX 4 Chamber		**LVOT VEL.** (m/s)	**RVOT VEL.** (m/s)	**IVRT** (m/)
NORMAL PARAMETER	<1.5	1.6	0.7-1.7		<1.6	<1.3	40-60
PATIENT	--	1.21	1.11		0.66	0.62	NM
Adapted from June Boon, Veterinary Echocardiography,1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							

ECG Interpretation

A 6 lead ECG is reviewed. The heart rate is 170 bpm. The rhythm is sinus with no evidence of ectopy or AV block. There is a normal left caudal mean electrical axis.

Cardiac Presentation

The left atrium and auricle are normal in size. No evidence of spontaneous echo contrast or intracardiac thrombi on the provided images. The mitral valve leaflets are normal and there is no mitral regurgitation. There is no evidence of systolic anterior motion of the mitral valve and no evidence of a left ventricular outflow tract obstruction. The interventricular septum measures normal. There is mild thickening of the left ventricular free wall. The right atrium is normal. The tricuspid valve is normal without evidence of tricuspid regurgitation. The right ventricle appears to have preserved systolic function subjectively. The aortic and pulmonary valves are normal without evidence of insufficiency. Aortic and pulmonary outflow velocities are within normal limits. The aorta and PA are

PATIENT

Jacob Makuch

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

13 Years

WEIGHT

9.8 kg

INTERPRETED BY

James Wood, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Vetopia AH

REFERRING VET

Dr. Awad

INVOICE

37163

DATE

5/21/26

normal along with the associated PA branches. There is no evidence of pleural effusion, pericardial effusion, or intracardiac masses.

ULTRASONOGRAPHIC FINDINGS

- Hypertrophic cardiomyopathy, ACVIM stage B1

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

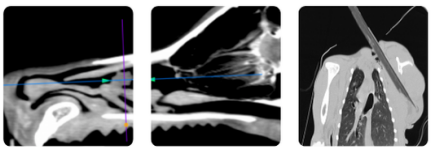
The echocardiogram revealed thickening of the left ventricular walls. This is consistent with a hypertrophic cardiomyopathy phenotype, or HCM. In HCM, there is hypertrophy (thickening) of the muscle fibers that make up the walls of the heart. Many cases are a primary heart muscle disease (genetic in origin), however in some cases this can be a secondary process that may improve with treatment of the underlying condition (i.e. high blood pressure or hyperthyroidism among others). A blood pressure and total T4 are recommended in cats >6yr to rule these out as underlying causes (if not already performed). Regardless of the cause, the thickening causes diastolic dysfunction, and progressive left atrial enlargement. Eventually, cats with left atrial enlargement are at risk of developing congestive heart failure (pulmonary edema, pleural effusion, or both), blood clot formation and arrhythmias/sudden death. Some cats with mild HCM may live a normal lifespan with no further progression of disease. However, it is also possible that his HCM will progress over time and further therapy may be required for congestive heart failure, blood clots, or arrhythmias.

Fortunately, this patient does not have evidence of significant left atrial enlargement, so the risk of adverse cardiovascular outcomes is considered low at this time. No cardiac medications are recommended at this stage of the disease, but a recheck echocardiogram is recommended in 9-12 months to determine if there is any progression.

Given the normal left atrial size, the reported radiographic findings are not due to congestive heart failure.

It is very important to catch any clinical signs concerning for emerging CHF as early as possible. The client should be closely monitoring and ideally tracking the sleeping respiratory rate. The sleeping RR should be between 10-30 breaths per minute or less (ideally in the teens or low 20s). **If the resting RR is trending upward**, consistently>35/min while resting/sleeping, the patient should be seen urgent for evaluation to determine if CHF is developing. If your pet is ever unable to use one or more of their limbs, seek emergency veterinary attention. *RECHECK ASAP for thoracic radiographs if there is increase in RR to detect early CHF and avoid ER presentation**

The Focal Zone
FUELED BY SONOPATH VETERINARY ULTRASOUND



Teleradiology
Educational Teleconsultation Services™

SonoPath
FOSTERING THE ART OF VETERINARY MEDICINE™
www.thefocalzone.com
info@thefocalzone.com
289.808.2608

PATIENT

Jacob Makuch

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

13 Years

WEIGHT

9.8 kg

INTERPRETED BY

James Wood, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Vetopia AH

REFERRING VET

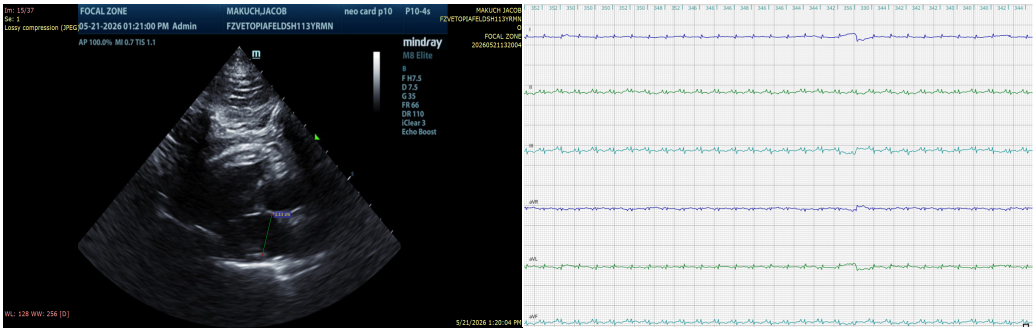
Dr. Awad

INVOICE

37163

DATE

5/21/26



The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. 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.

James Wood, DVM, DACVIM (Cardiology)

info@SonoPath.com