


PATIENT

Theo Artinian

PRESENTING CLINICAL SIGNS

Patient presents for probable mitral valve insufficiency, appears compensated, hepatomegaly.

SPECIES

Canine

BREED

Maltese

SEX

M

AGE

8yr

WEIGHT

13lb

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

 Animal Paradise
 Hospital

REFERRING VET

Dr. ElShafie

INVOICE

12060ag

DATE

10/31/2022

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND 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	<1.3	28-40	40-100	<0.6
PATIENT	5.6	2.6	1.3	1.3	36.2	68.4	0.2
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				
PATIENT	95	1.6	0.92		2.5	2.4	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal left atrial size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal mitral valve leaflets presented mild thickening consistent with endocardiosis. No evidence of valvular prolapse was present. Doppler indicated measurable mild to moderate eccentric insufficiency. The left ventricle presented thicknesses with linear contour and was not dilated nor restricted. The myocardium presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. Contractility of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The left ventricular outflow tract demonstrated normal laminar flow and subjective structural integrity. The right atrium and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. Tricuspid valvular assessment demonstrated mild thickening with mild insufficiency on Doppler. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Pulmonic tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible pericardial or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The cranial mediastinum and pericardial regions were free of masses in the visible window.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no



PATIENT	evidence of pelvic dilation. The left kidney measured 3.9 cm in length. The right kidney measured 4.1 cm in length.
Theo Artinian	The area of the aortic trifurcation was free of pathology.
SPECIES	The prostate was mildly enlarged in size with intact, symmetrical capsule contour. The margins of the gland were intact and able to be differentiated from the surrounding tissue. The prostatic parenchyma was mildly echogenic to heteroechoic without parenchymal mineralization. The prostate measured ~ 1.8 cm in diameter.
Canine	
BREED	Adrenal Glands
Maltese	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.47 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.48 cm width at the caudal pole.
SEX	Spleen
MI	The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.
AGE	Liver
8yr	The liver was mildly enlarged with maintained symmetrical contour. The liver parenchyma was uniform and hypoechoic to the spleen with a moderate coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.
WEIGHT	Gastrointestinal
13lb	The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained minor retained anechoic pyloric fluid with no signs of ileus, obstruction or foreign material.
INTERPRETED BY	The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	Normal visible colon wall layers were present with apparent formed feces in lumen.
IMAGING PERFORMED BY	Pancreas
Kelly Vazquez	The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.
HOSPITAL NAME	Free Abdomen
Animal Paradise Hospital	No omental masses, overt lymphadenopathy or peritoneal effusion was present.
REFERRING VET	ULTRASONOGRAPHIC FINDINGS
Dr. ElShafie	<ul style="list-style-type: none"> • Chronic mitral valve disease (ACVIM B1) • TV insufficiency-estimated pulmonary pressure gradient not consistent with overt clinical pulmonary hypertension (~ 27 mmHg)
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- Mild benign hepatomegaly
- Mild benign prostatic hyperplasia

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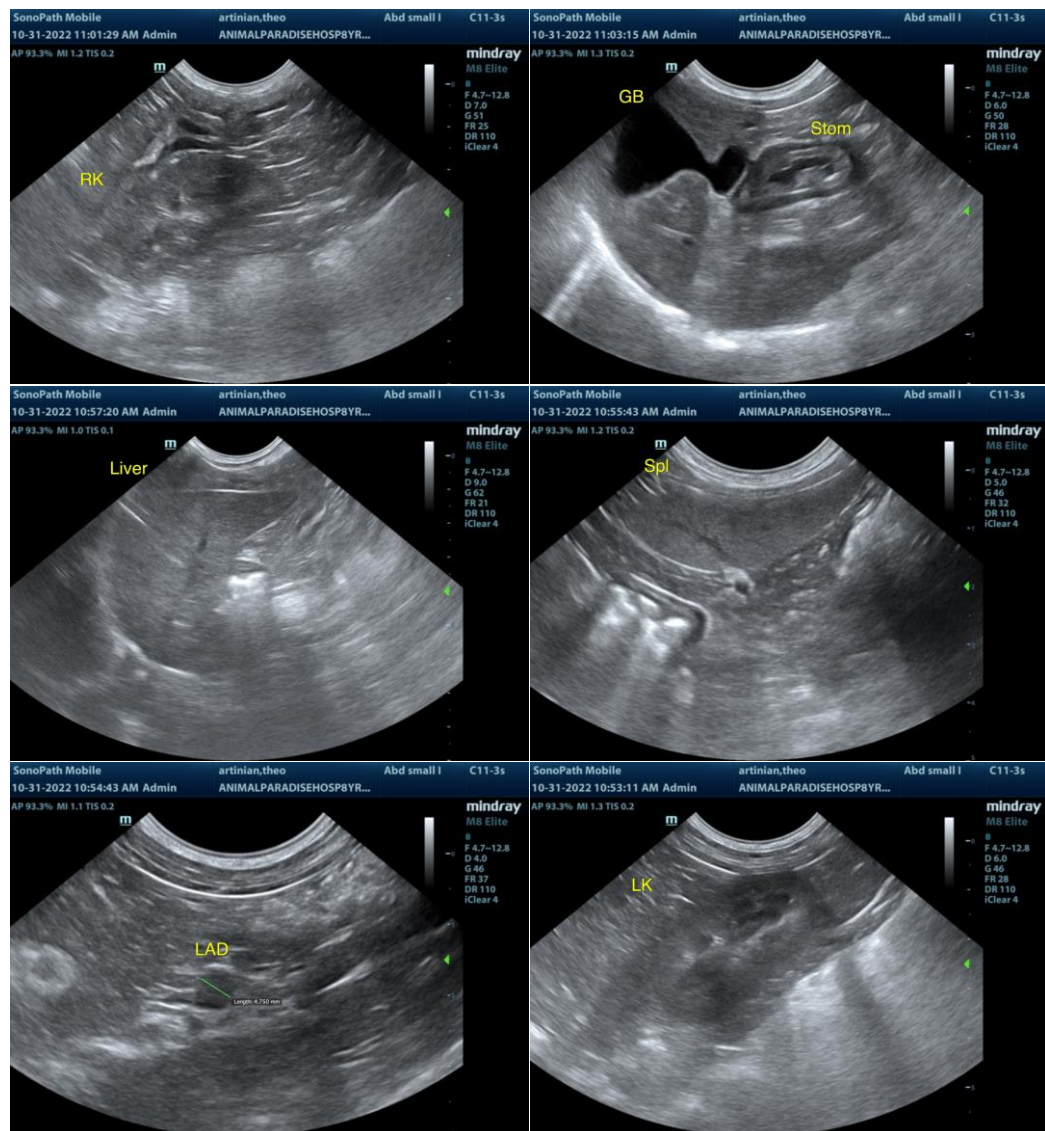
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve and mild tricuspid valve insufficiency. The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is low at this time and, without current clinical signs, indicates that medical therapy is not required. Prognosis at this stage is highly variable and serial sonographic monitoring is recommended with a recheck echocardiogram in 6-12 months, sooner if clinical signs suggestive of heart disease or pulmonary hypertension develop.

Correlation of the mild hepatomegaly with hepatic enzyme evaluation if not already done is recommended. Hepatosupportive medications such as Denamarin or Vitamin E as well as Ursodiol may prove beneficial if clinically indicated.





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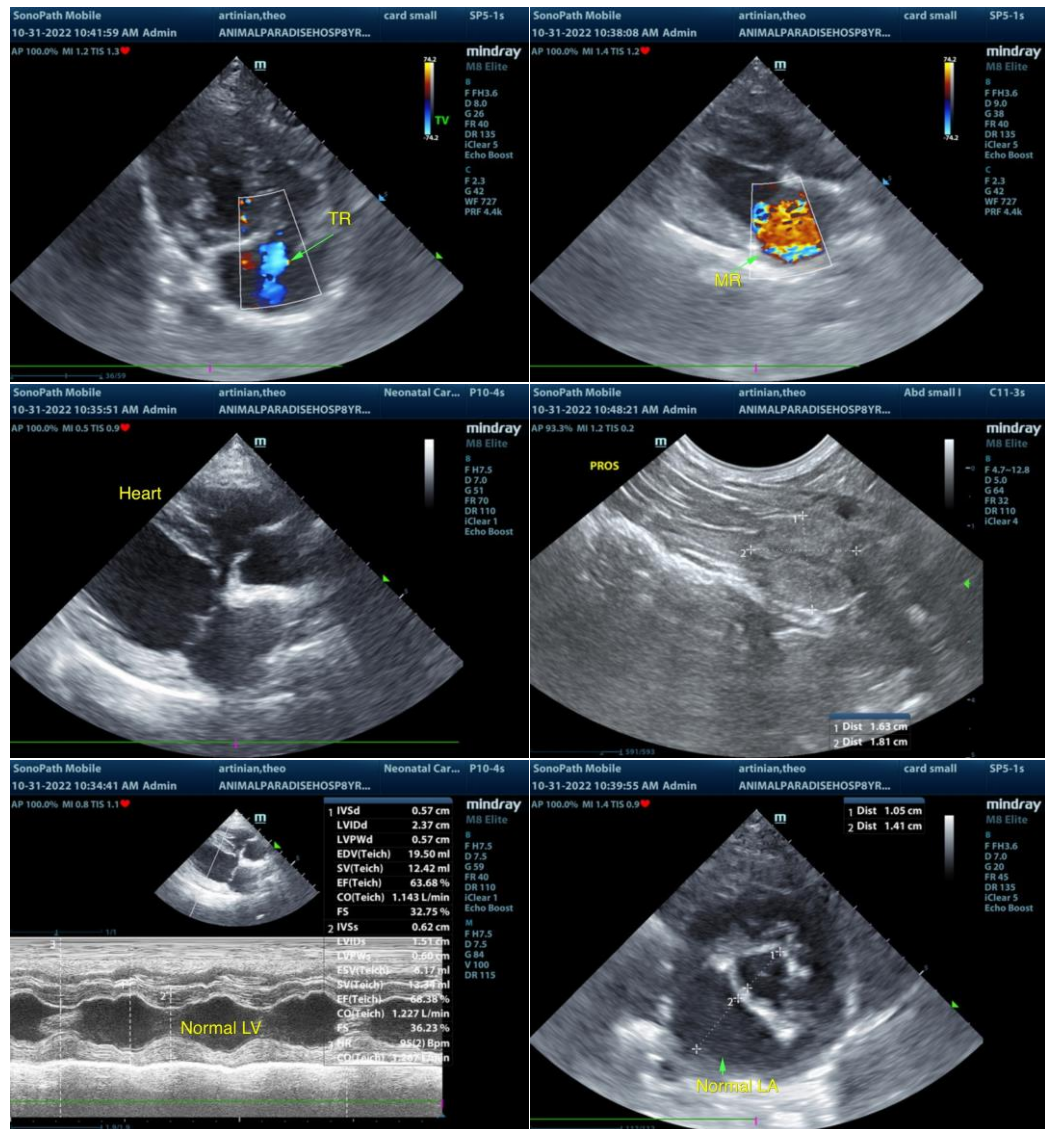
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com