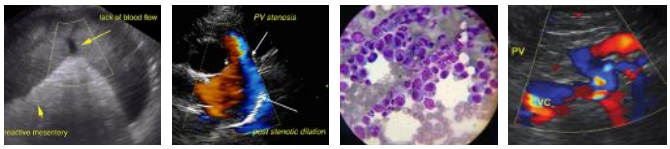
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Cookie Cardoso

SPECIES
Canine

BREED
Shih Tzu

SEX
MN

AGE
13

WEIGHT
11

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

IMAGING PERFORMED BY
Jenn

HOSPITAL NAME
Rockaway Animal Hospital

REFERRING VET
Dr. Maniar

INVOICE
10996ag

DATE
06/28/2022

PRESENTING CLINICAL SIGNS

presented for vomiting

ULTRASONOGRAPHIC EXAMINATION OF THE HEART AND ABDOMEN

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	5.1		1.1	1.2	42.3	76.7	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	157	1.2	1.0		2.8	2.6	

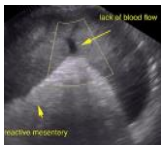
Cardiac Presentation

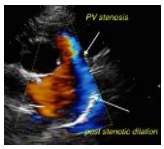
The echocardiogram in this patient demonstrated normal left atrial size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal mitral valve leaflets presented vegetative thickening consistent with endocardiosis with mild prolapse of the anterior leaflet. Doppler indicated measurable primarily eccentric to turbulent insufficiency. MR was noted measuring 5.1 m/s. 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 adequate linear morphology. 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.

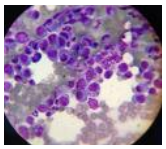
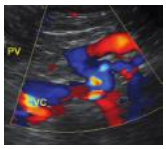
Urinary System

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 was present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence





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

PATIENT

Cookie Cardoso

SPECIES

Canine

BREED

Shih Tzu

SEX

MN

AGE

13

WEIGHT

11

INTERPRETED BY

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

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway Animal Hospital

REFERRING VET

Dr. Maniar

INVOICE

10996ag

DATE

06/28/2022

of pelvic dilation was present. The left kidney measured 3.5 cm in length. The right kidney measured 4.1 cm in length.

The area of the aortic trifurcation was free of pathology.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.55 cm width at the caudal pole. No overt pathology in the area of the right adrenal gland.

Spleen

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.

Liver

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. 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.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with mild luminal gas and no signs of ileus, obstruction or foreign material. The gastric body wall measured 0.29 cm in width.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with subjective mildly prominent segmental gas pattern and no signs of ileus, obstruction or foreign material. The small intestine wall measured 0.23 cm in width.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

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.

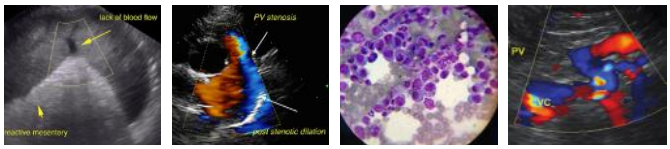
Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1), mild anterior mitral valve leaflet prolapse
- Sonographically unremarkable GI tract
- Mild chronic renal changes

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Cookie Cardoso

SPECIES

Canine

BREED

Shih Tzu

SEX

MN

AGE

13

WEIGHT

11

INTERPRETED BY

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

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway Animal Hospital

REFERRING VET

Dr. Maniar

INVOICE

10996ag

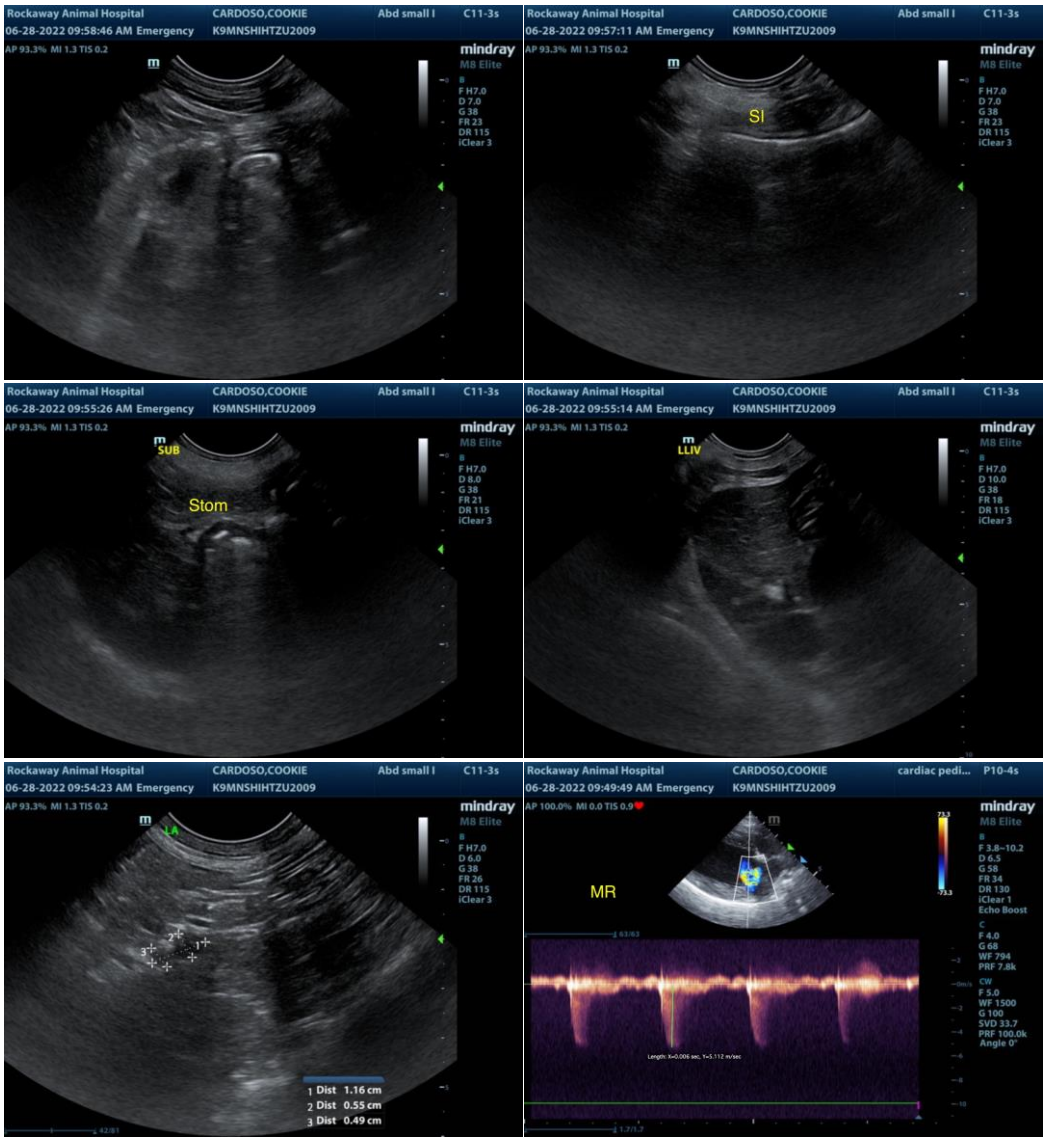
DATE

06/28/2022

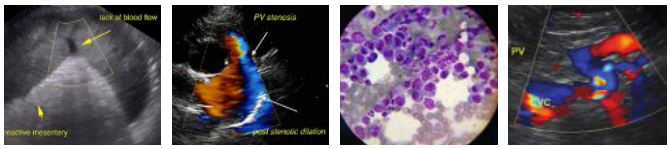
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral 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. However prognosis at this stage is highly variable and further sonographic monitoring is required for prognosis. Conservative monitoring is recommended with a recheck echocardiogram in 6-12 months, sooner if clinical signs suggestive of heart disease develop.

Sonographically unremarkable abdomen for age with no overt abdominal visceral specifically GI or pancreatic pathology as a cause for the patient's vomiting. Dietary intolerance/food hypersensitivity, occult parasitism, structurally insignificant inflammatory gastroenteropathy or low grade to chronic pancreatitis could be possible. Supportive care for gastroenteritis would be reasonable. If persistent vomiting, recheck sonogram to assess for progressive GI mural changes and/or resting cortisol level to rule out occult Addison's disease may be considered.



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Cookie Cardoso

SPECIES

Canine

BREED

Shih Tzu

SEX

MN

AGE

13

WEIGHT

11

INTERPRETED BY

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

IMAGING PERFORMED BY

Jenn

HOSPITAL NAME

Rockaway Animal Hospital

REFERRING VET

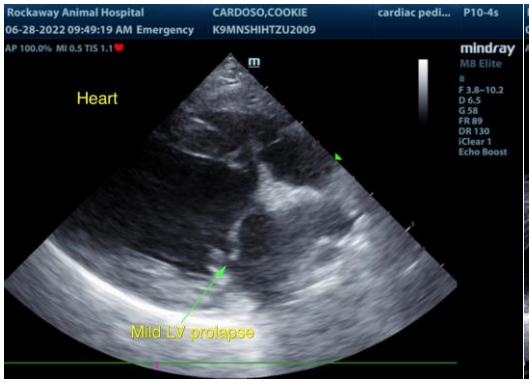
Dr. Maniar

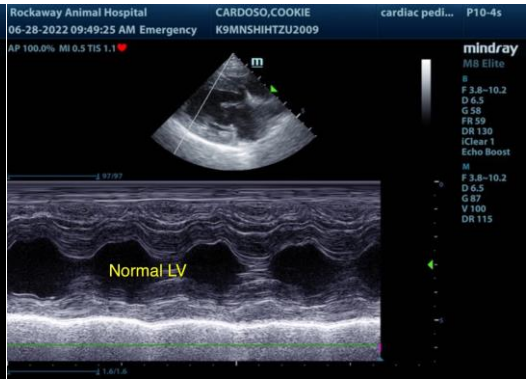
INVOICE

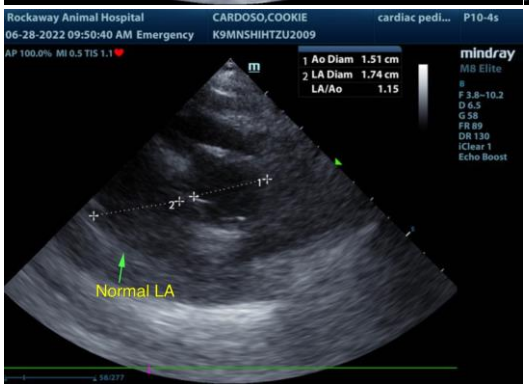
10996ag

DATE

06/28/2022







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