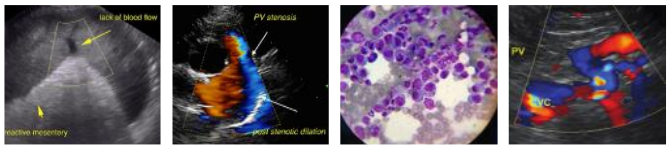
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Lilly Piros

SPECIES

Canine

BREED

Shih Tzu Mix

SEX

FS

AGE

14yr

WEIGHT

14.05lb

INTERPRETED BY

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

IMAGING PERFORMED BY

Val Shumskaya

HOSPITAL NAME

Lake Hopatcong Veterinary Clinic

REFERRING VET

Dr. Novarro

INVOICE

14136ag

DATE

06/19/2023

PRESENTING CLINICAL SIGNS

Heart and lungs sound irregular, x-ray showing cardiomyopathy

Abnormal PE/Chem/CBC/UA Results: SDMA 15, BUN 37, LIPA 2,154

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART

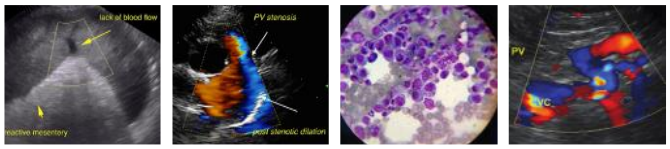
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT		3.0	1.0	1.4	43	78	0.3
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**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	156	1.0	0.72		2.6	2.3	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal left atrial size based on 3 different LA measurement methods. Chamber volumes and blood echogenicity were normal. The cranial and caudal mitral valve leaflets presented mild thickening consistent with endocardiosis. Doppler indicated mild centralized to 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 TR 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). Trace pulmonic insufficiency present on Doppler. 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. No overt arrythmia.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra exhibited normal thickness and tone. Anechoic urine was present in the lumen with mild dependent hyperechoic lumen mineral. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.



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

PATIENT

Lilly Piros

SPECIES

Canine

BREED

Shih Tzu Mix

SEX

FS

AGE

14yr

WEIGHT

14.05lb

INTERPRETED BY

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

IMAGING PERFORMED BY

Val Shumskaya

HOSPITAL NAME

Lake Hopatcong Veterinary Clinic

REFERRING VET

Dr. Novarro

INVOICE

14136ag

DATE

06/19/2023

Normal renal size with asymmetrical margination was present in both kidneys. The renal cortex presented uniformly increased in echogenicity with uniform echotexture. The renal cortex appeared to be hypertrophied resulting in an altered cortex: medulla ratio. Mild loss of corticomedullary distinction was also present. Bilateral intermittent small cortical cysts and non-obstructive medullary nephrolithiasis were present. The renal medullary volume was subjectively reduced. The left kidney measured 4.2 cm in length. The right kidney measured 4.6 cm in length.

The area of the aortic trifurcation was free of pathology.

Adrenal Glands

The bilateral adrenal glands were normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 1.6 cm length and 0.39 cm width in the caudal pole. The right adrenal gland measured 2.1 cm length and 0.55 cm width in the caudal pole.

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/Gallbladder

The liver was subjectively borderline enlarged with symmetrical contour and normal to subtly increased parenchymal echogenicity with mild to moderate coarse echotexture. A subtle isoechoic non-homogenous nodule was present in the mid ventral liver measuring 1.3 cm in diameter. Th nodule was suggestive of benign criteria. Normal hepatic vascular volume was present. 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 with mild echogenic non-organized debris. 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 no signs of ileus, obstruction or foreign material.

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.

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

Pancreas

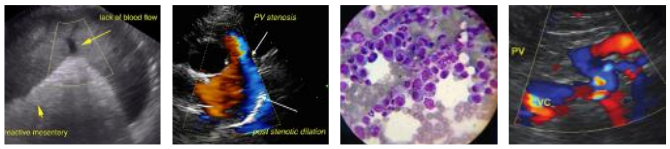
The pancreas base and right pancreatic limb was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

Free Abdomen

No omental masses, overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Mild compensated MR (ACVIM B1)



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

PATIENT

Lilly Piros

SPECIES

Canine

BREED

Shih Tzu Mix

SEX

FS

AGE

14yr

WEIGHT

14.05lb

INTERPRETED BY

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

IMAGING PERFORMED BY

Val Shumskaya

HOSPITAL NAME

Lake Hopatcong Veterinary Clinic

REFERRING VET

Dr. Novarro

INVOICE

14136ag

DATE

06/19/2023

- TR-estimated pulmonary pressure gradient ~ 36 mmHg, suggestive of mild increased pulmonary pressure.
- Trace pulmonic insufficiency.
- Mild dependent urinary bladder lumen mineral.
- Moderate chronic renal changes with non-obstructive nephrolithiasis and cortical cysts.
- Suspect borderline/mild hepatomegaly with subtle indistinct intraparenchymal nodule-subjectively benign.
- Gallbladder debris (non-mucocele).
- Pancreatic remodeling.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The lack of left atrial enlargement or left volume overload implies that the risk of complication secondary to mitral valve insufficiency is relatively low at this time and indicates that medical therapy is not required at this stage.

No other clinical issues such as left/right heart chamber enlargement, LV systolic dysfunction or overt clinical pulmonary hypertension. The lack of significant structural/functional cardiomyopathy may indicate primary lower airway disease if clinical signs are present.

An ECG assessment is recommended if evidence of non-obvious arrythmia is present.

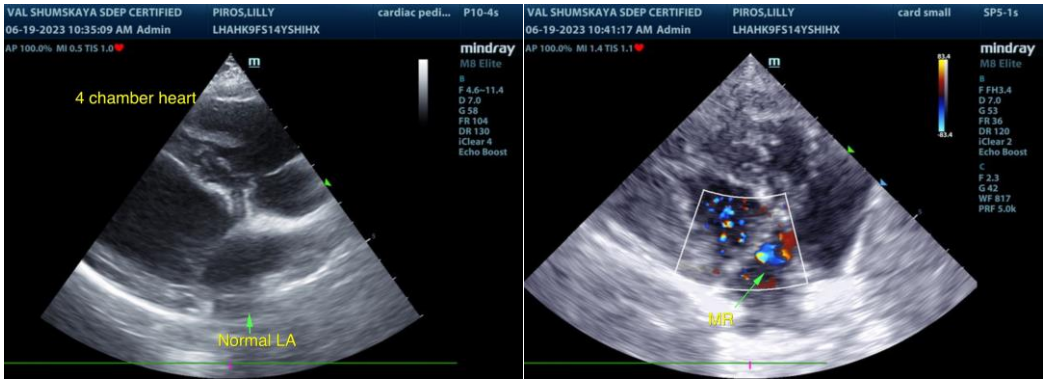
Prognosis at this stage is variable and serial sonographic monitoring is recommended with a recheck echocardiogram in 6 months, sooner if clinically indicated.

Largely a geriatric abdomen with no overt evidence of significant abdominal visceral pathology.

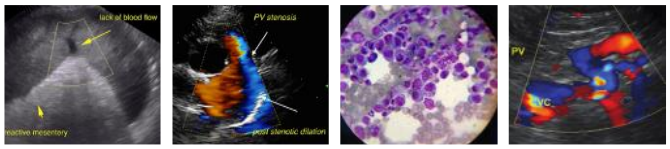
Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.

Assessment for evidence of cranial abdominal/subxiphoid discomfort on palpation, abnormal spec cPL or clinical signs which may allude to low grade pancreatitis is recommended.

Hepatosupportive medications such as Denamarin and Ursodiol, if tolerated may be considered if evidence of hepatic enzyme elevations/cholestasis.



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Lilly Piros

SPECIES

Canine

BREED

Shih Tzu Mix

SEX

FS

AGE

14yr

WEIGHT

14.05lb

INTERPRETED BY

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

IMAGING PERFORMED BY

Val Shumskaya

HOSPITAL NAME

Lake Hopatcong Veterinary Clinic

REFERRING VET

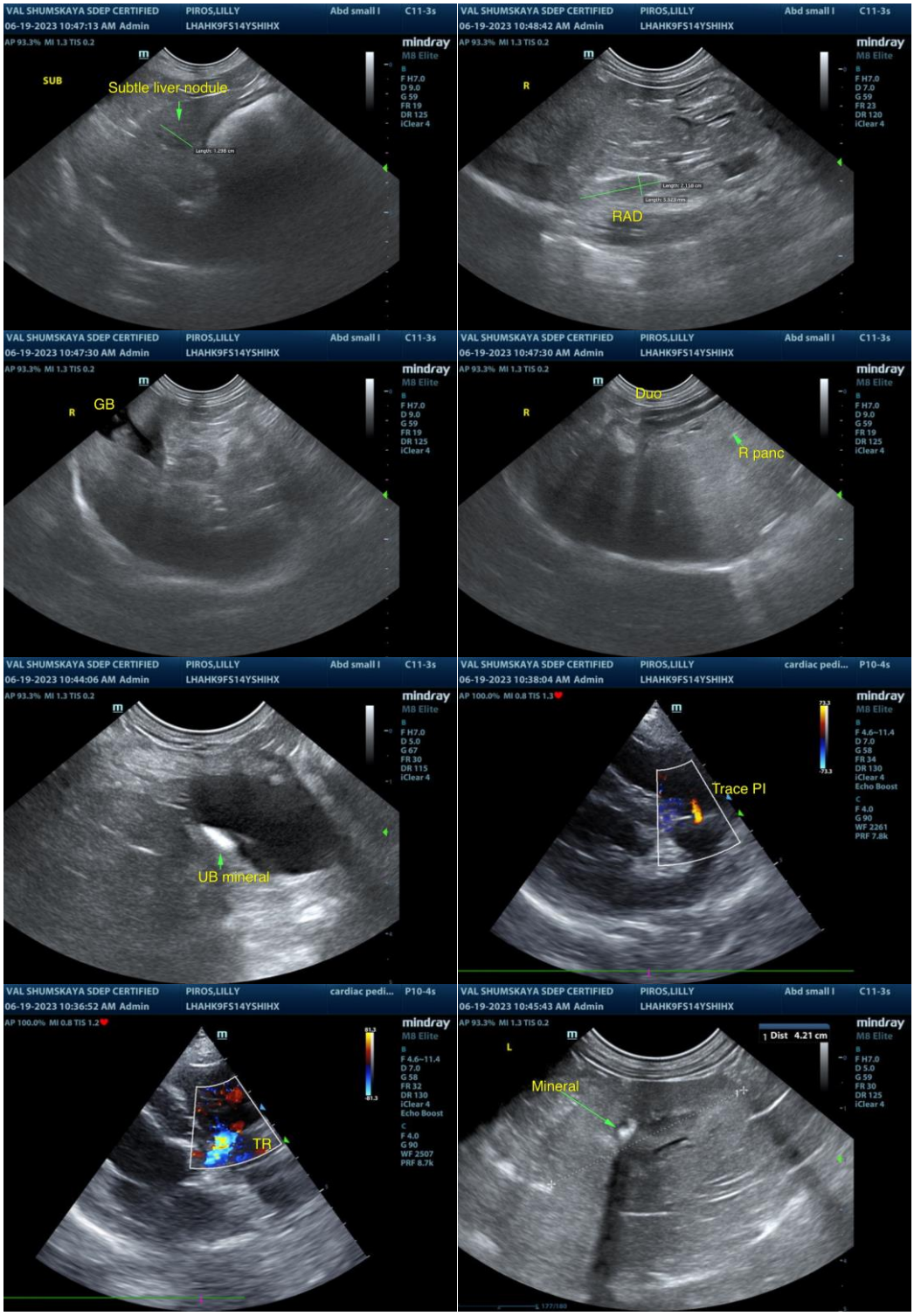
Dr. Novarro

INVOICE

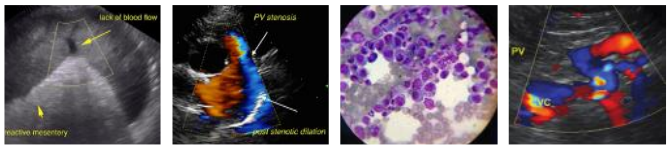
14136ag

DATE

06/19/2023



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Lilly Piros

SPECIES

Canine

BREED

Shih Tzu Mix

SEX

FS

AGE

14yr

WEIGHT

14.05lb

INTERPRETED BY

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

IMAGING PERFORMED BY

Val Shumskaya

HOSPITAL NAME

Lake Hopatcong Veterinary Clinic

REFERRING VET

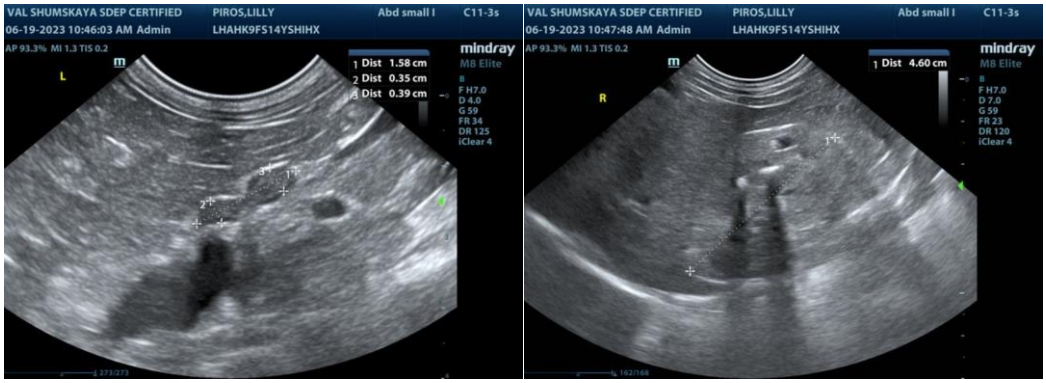
Dr. Novarro

INVOICE

14136ag

DATE

06/19/2023



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