



PATIENT PRESENTING CLINICAL SIGNS

Ruthie Parzych History: Hx of coughing.

SPECIES Abnormal PE/Chem/CBC/UA Results: Grade 5/6 LAS murmur Multiple SQ masses Pendulous abdomen
 Thoracic rads - Suspect metastatic lesions; cardiomegaly; dorsal tracheal membrane noted in tracheal lumen on lateral view. BCS 8/9. Started her on Pimobendan 2.5 mg bid 10/8.

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

BREED

Pomeranian Mix

SEX

Spayed Female

AGE

14 Years

WEIGHT

19.8

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	5.30	--	1.15	1.3	45	--	0.1
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	--	1.50	--	--	2.2	2.0	--

INTERPRETED BY

Eric Lindquist, DMV
 DABVP, Cert. IVUSS

Cardiac Presentation

The **echocardiogram** presented a prominent **right heart** with mild **right ventricular** hypertrophy, and normal **right atrial** size. Tricuspid insufficiency was noted. No evidence of neoplasia was noted in the right auricle, or elsewhere in the heart. The **pulmonary artery** was uniformly prominent with mildly depressed pulmonic velocity measured on PW Doppler. No overt heartworms were noted in the main or visible deep pulmonary arteries. Yet theoretically heartworms could be present in the deep pulmonary vasculature out of visible sonographic range. More likely, however, this prominent right heart is due to excessive intra-thoracic pressures caused by chronic respiratory disease or potentially excessive intra-thoracic fat (Pickwickian syndrome). The **left heart** demonstrated a linear **ventricular septum**. Contractility was functionally adequate demonstrated by the FS% measurement. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. No significant **left atrial** dilation was noted. Aortic insufficiency was noted. No evidence of tumor, pericardial or pleural effusion was noted. The visible **extra-cardiac** tissues were uniformly linear without evidence of masses, infiltrative or inflammatory mediastinal tissue. No evident arrhythmic activity was noted during the exam.

A large amount of respiratory interference was noted in the echocardiogram.

IMAGING PERFORMED BY

Adrienne Waffle

HOSPITAL NAME

Torch Lake VC

REFERRING VET

Adrienne Waffle

INVOICE

17968

DATE

10/29/22

Urinary System



PATIENT

Ruthie Parzych

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized, and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

SPECIES

Canine

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some mild age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 4.66 cm. The left kidney measured 4.03 cm. Nonobstructive mineralization was noted in both kidneys.

BREED

Pomeranian Mix

Adrenal Glands

SEX

Spayed Female

The **left adrenal gland** was visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 0.5 cm in width.

AGE

14 Years

The **right adrenal gland** was not visualized.

Spleen

WEIGHT

19.8

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted. Cranial folding of the spleen was noted.

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

Liver

The **liver** was uniformly swollen. The liver presented moderate coarse architecture with mildly increased portal markings and subtle, mixed echogenic changes. This is consistent with vacuolar hepatopathy and some level of remodeling and history of inflammatory component. Occasional hypoechoic nodule noted on the liver. The gallbladder presented inspissated debris, calculi and minor echogenic gallbladder wall.

IMAGING PERFORMED BY

Adrienne Waffle

Gastrointestinal

HOSPITAL NAME

Torch Lake VC

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

REFERRING VET

Adrienne Waffle

Pancreas

INVOICE

17968

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some mild parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxyphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

DATE

10/29/22

ULTRASONOGRAPHIC FINDINGS



PATIENT

Ruthie Parzych

SPECIES

Canine

BREED

Pomeranian Mix

SEX

Spayed Female

AGE

14 Years

WEIGHT

19.8

- Benign hepatopathy with chronic changes- no evidence of passive congestion
- Inspissated gallbladder debris, calculi and minor echogenic gallbladder wall
- Age-related renal changes with mineralization
- Age-related pancreatic changes
- Splenic fold
- Unremarkable abdomen otherwise
- Cor pulmonale
- Mitral and tricuspid insufficiency, compensated
- Concurrent aortic insufficiency
- Stage B-1 valvular disease
- Respiratory interference was noted

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cough is noncardiogenic in this patient. No evidence of abdominal or cardiac metastasis. No overt contraindication to anesthetic procedure, if necessary, as long as blood pressures are normal.

The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflor maintenance or similar protocol if anesthesia is desired. Blood pressure recommended if not already performed and target white coat negative systolic pressure of < 160 mmHg. If higher than this ACE-inhibitor is suggested to reach this level. Recheck echocardiogram is recommended in 6 months, earlier if murmur grade increases or clinical signs initiate.

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Adrienne Waffle

HOSPITAL NAME

Torch Lake VC

REFERRING VET

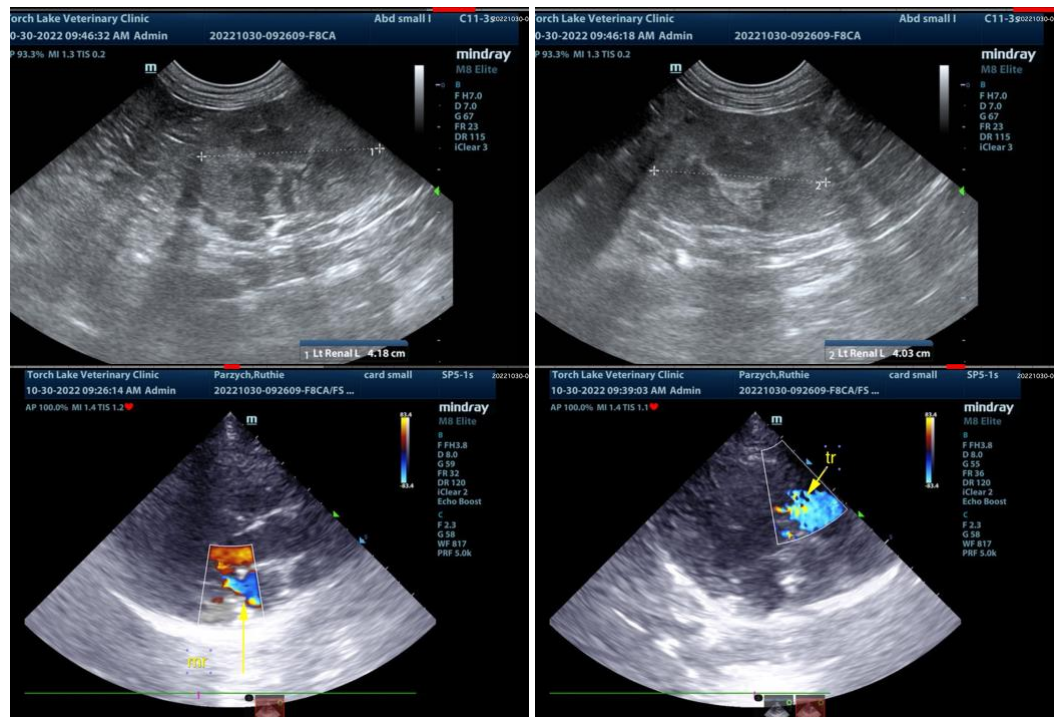
Adrienne Waffle

INVOICE

17968

DATE

10/29/22





PATIENT

Ruthie Parzych

SPECIES

Canine

BREED

Pomeranian Mix

SEX

Spayed Female

AGE

14 Years

WEIGHT

19.8

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Adrienne Waffle

HOSPITAL NAME

Torch Lake VC

REFERRING VET

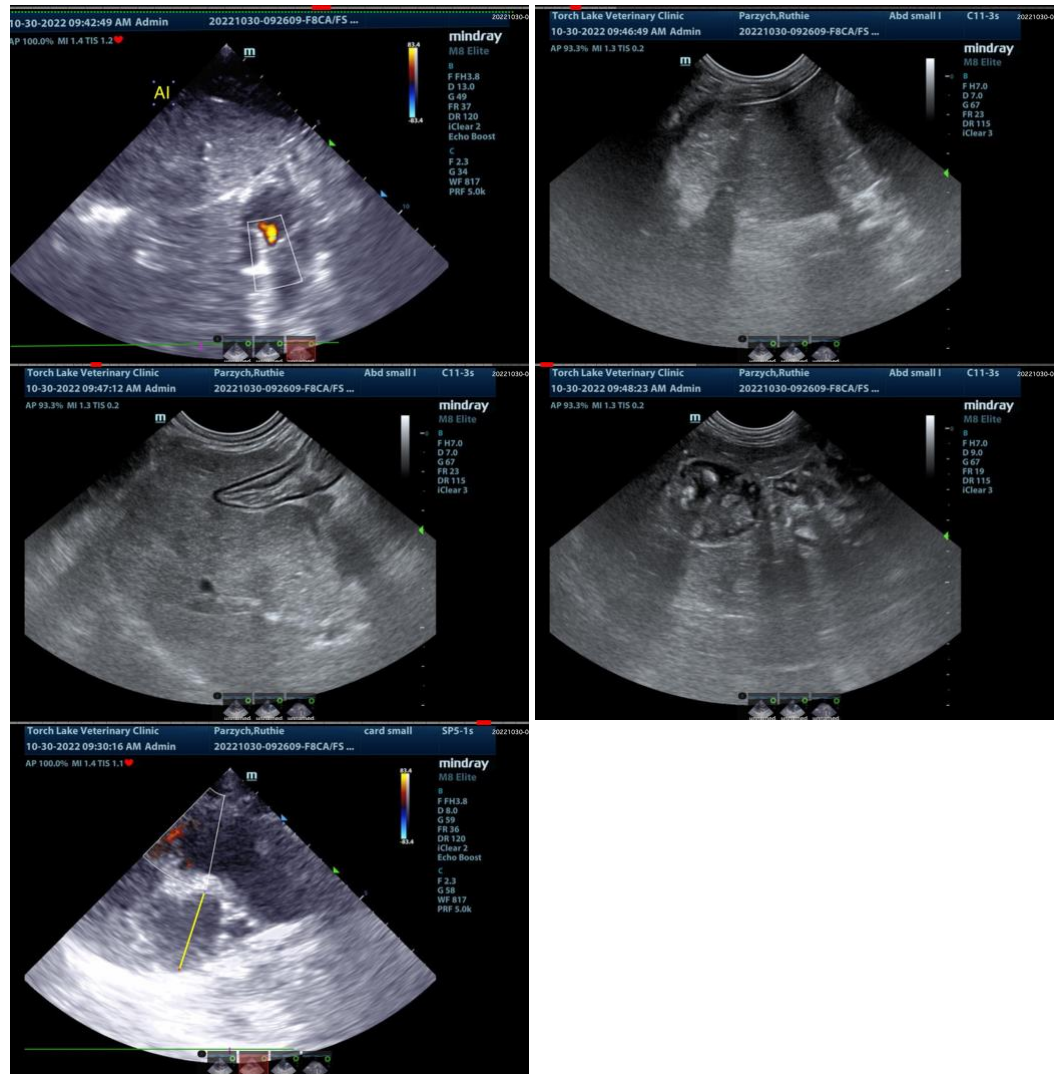
Adrienne Waffle

INVOICE

17968

DATE

10/29/22



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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com