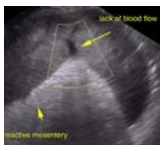
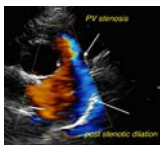
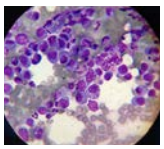
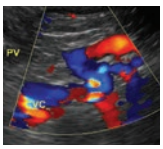
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT

Isabella Adair

SPECIES

Canine

BREED

Chihuahua

SEX

Spayed Female

AGE

12 Years

WEIGHT

2 kg

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Callihan

HOSPITAL NAME

Animal Emergency Care

REFERRING VET

Dr. Ruark

INVOICE

33907

DATE

1/1/22

PRESENTING CLINICAL SIGNS

Presented today on ER for vomiting and diarrhea History mitral v insuff with prior hx CHF well controlled on furos, enalapril and Pimobendan for about 6 mos Intermittent diarrhea since starting heart meds Diet is mixture of a freeze dried turkey based prep and people foods
Abnormal PE/Chem/CBC/UA Results: Abd radiographs show mild decrease abd serosal detail; possible gastric or SI foreign material (no history of wayward ingestions); caudal pt thorax in rads, pleural effusion. TP 3.2 (Alb 1.4, Glob 2.0) PCV 40% Mild leukocytosis WBC 20K Chem 10: BUN 29 ALKP 17 (low) lytes wnl exc mild elev Cl

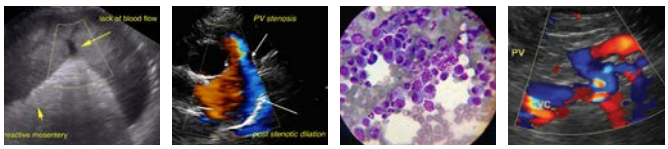
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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	<1.6	28-40	40-100	<0.6
PATIENT	5.8		2.0	2.1	45		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		1.2	0.7		2.82	3.0	

Cardiac Presentation

The echocardiogram for this patient presented excessive **left atrial size** expressed both in the LA/AO and LA max measurements. Moderate filling of the left atrium noted on color flow assessment of the mitral valve. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. Prolapse of the anterior mitral valve leaflet noted. 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. Minor **tricuspid** insufficiency noted. 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** fluid. Pleural effusion was noted, yet this is non-cardiogenic in nature and likely owing to poor oncotic pressure. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window. Arrhythmogenic activity noted.

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Isabella Adair

SPECIES
Canine

BREED
Chihuahua

SEX
Spayed Female

AGE
12 Years

WEIGHT
2 kg

INTERPRETED BY
Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Dr. Callihan

HOSPITAL NAME
Animal Emergency Care

REFERRING VET
Dr. Ruark

INVOICE
33907

DATE
1/1/22

Urinary System

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.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some 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 3.22 cm. The left kidney measured 2.83 cm.

Adrenal Glands

Both **adrenal glands** were 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 0.32 cm. The right adrenal gland measured 0.50 cm.

Spleen

The **spleen** in this patient was uniform, yet volume contracted. Hydration status should be assessed.

Liver

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal. No overt evidence of active inflammatory, infiltrative or regenerative pathology was noted but should be paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.

Gastrointestinal

The **stomach** revealed concentric hypertrophy with stasis. Some early loss of mural detail noted. Mucosal fogging noted throughout the GI tract. Reactive mesentery noted.

Pancreas

The **pancreas** presented heterogeneous changes, some level of pancreatitis likely. Reactive mesentery noted around the pancreas.

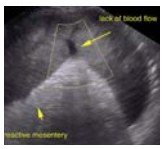
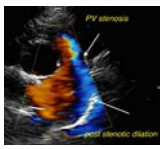
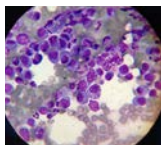
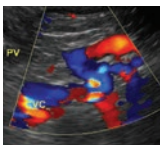
Free Abdomen

Free fluid noted in the abdomen owing to poor oncotic pressure.

ULTRASONOGRAPHIC FINDINGS

- Advanced Stage B2 valvular disease with pleural effusion owing to protein losing enteropathy and poor albumin levels.
- Gastritis and pyloric hypertrophy with mucosal fogging – consistent with protein losing enteropathy. Potential for emerging pyloric neoplasia.

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT
Isabella Adair

SPECIES
Canine

BREED
Chihuahua

SEX
Spayed Female

AGE
12 Years

WEIGHT
2 kg

INTERPRETED BY
Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Dr. Callihan

HOSPITAL NAME
Animal Emergency Care

REFERRING VET
Dr. Ruark

INVOICE
33907

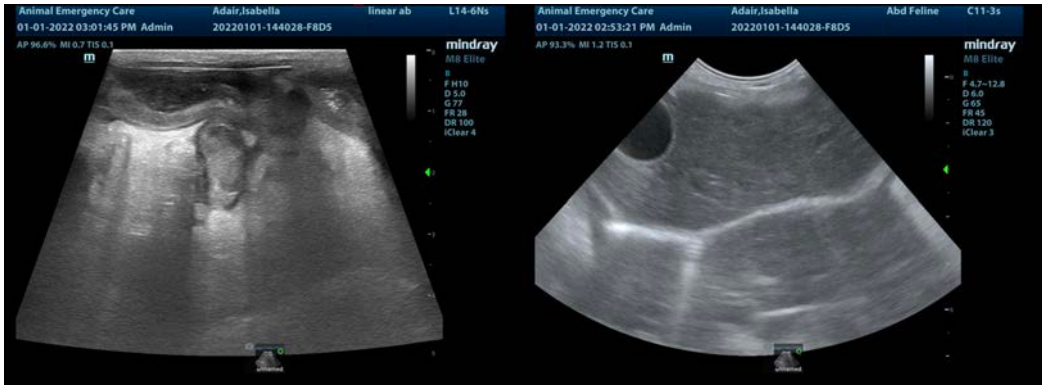
DATE
1/1/22

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This is a paradoxical management owing to the volume overload in the left atrium and left ventricle that would necessitate ACE inhibitor, diuretic and Pimobendan. Recommend minimalizing diuretic use in this patient. However, Pimobendan and ACE inhibitor would be appropriate. Pimobendan at 0.3 mg/kg BID, ACE inhibitor 0.5 mg/kg BID. I do recommend also Spironolactone at 1-2 mg/kg BID. Guarded prognosis. Recheck abdominal and cardiac ultrasound in 10-14 days.

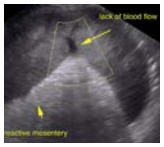
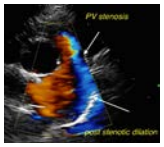
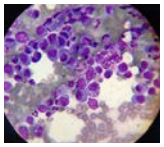
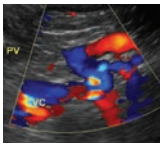
PLE Therapy
Part or all of this protocol may be considered based on your clinical impression of the patient:

OBJECTIVE: keep albumin levels > 2 g/dl, avoid thromboembolism and cavitary effusions, monitor concurrent PLN (Wheaton Terrier PLE/PLN) and liver disease:
Plasma 10 mL / kilogram IV over 4 hours
Or **Human albumin** 2 ml/kg/h over 10 hours. Total daily volume 20.l/kg/day
And Colloids/Hetastarch
10 to 20 mL per kilogram per day and dogs
10 to 15 mL per kilogram per day cats
(Can bolus first 1/3 of dose over 15 minutes)
& maintain on LRS maintenance otherwise.
Metronidazole (10-20 mg/kg po bid)
Famotidine 1 mg/kg Iv Im po dc Sid /bid
Sucralfate 0.5-1 g po tid dogs, 0.5 g bid cats in slurry **Or Misoprostol** 1-5 ug/kg po tid
Diet: Highly digestible high quality protein, low fiber, low fat diet (< 15% of dry matter). Hydrolyzed protein or novel protein. Purina HA or Royal Canine HP or similar.
Prednisone or prednisolone 2 mg/kg bid x 3-5 days then 2 mg/kg sid. **Chlorambucil** in refractive severe IBD/alimentary lymphoma cases (monitor cbc for rare bone marrow suppression) 4 mg/m^2 Q 24-48 hours.
Cobalamine (B12) 250-1500 ug/dog weekly x 6 weeks.
Calcium supplementation if necessary.
Aspirin 0.5-1 mg/kg/day **or Clopidrel** (Plavix) 1-5 mg/kg/day.



SonoPath
Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT

Isabella Adair

SPECIES

Canine

BREED

Chihuahua

SEX

Spayed Female

AGE

12 Years

WEIGHT

2 kg

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Callihan

HOSPITAL NAME

Animal Emergency Care

REFERRING VET

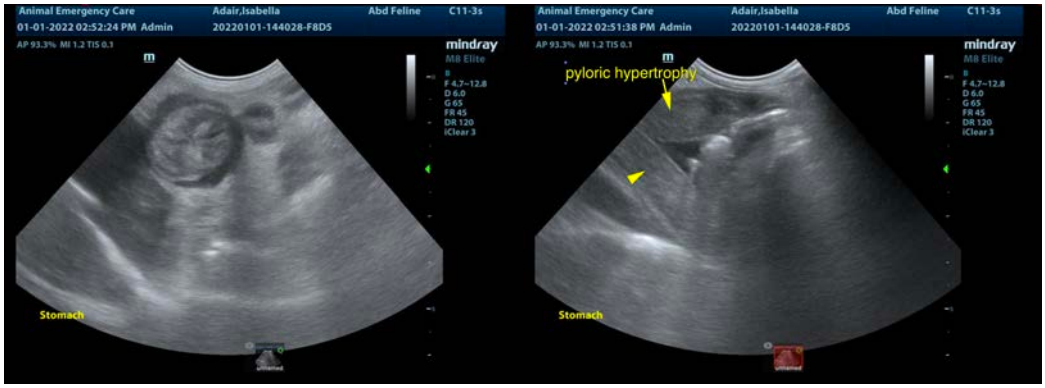
Dr. Ruark

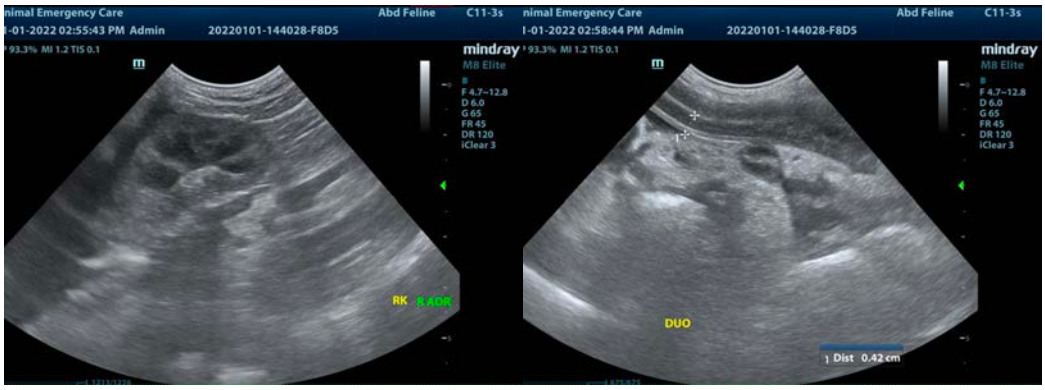
INVOICE

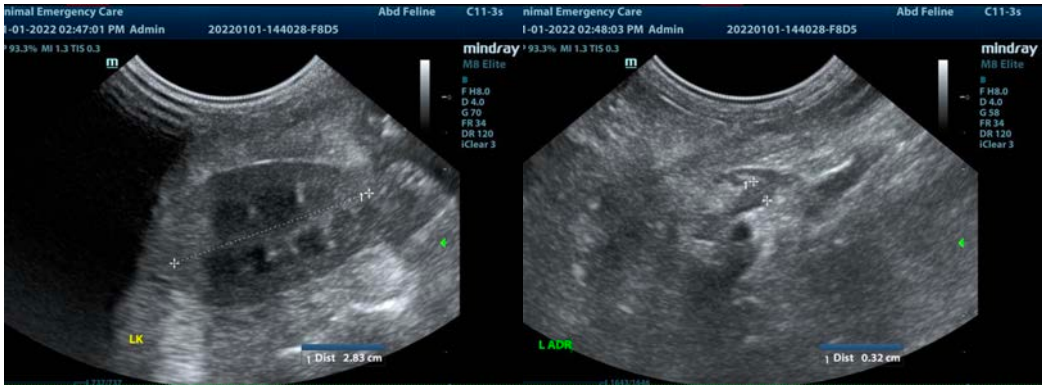
33907

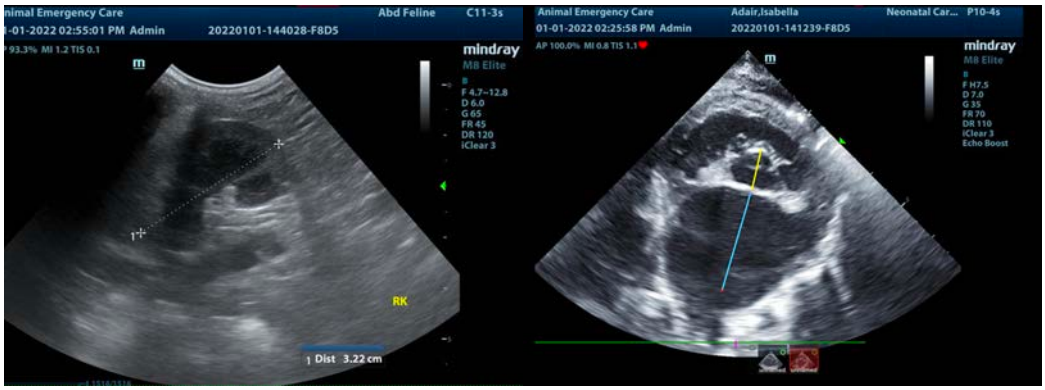
DATE

1/1/22

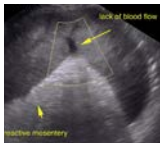
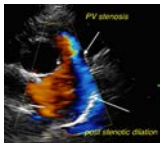
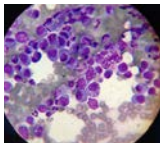
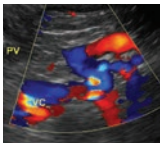








SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT

Isabella Adair

SPECIES

Canine

BREED

Chihuahua

SEX

Spayed Female

AGE

12 Years

WEIGHT

2 kg

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Callihan

HOSPITAL NAME

Animal Emergency Care

REFERRING VET

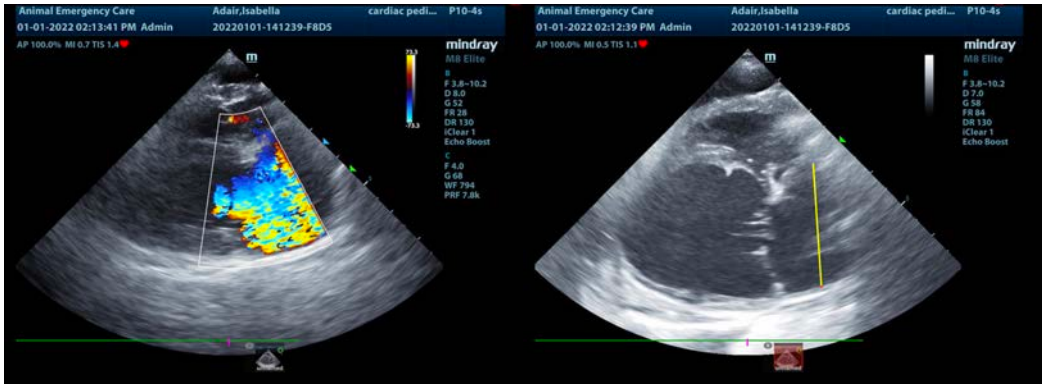
Dr. Ruark

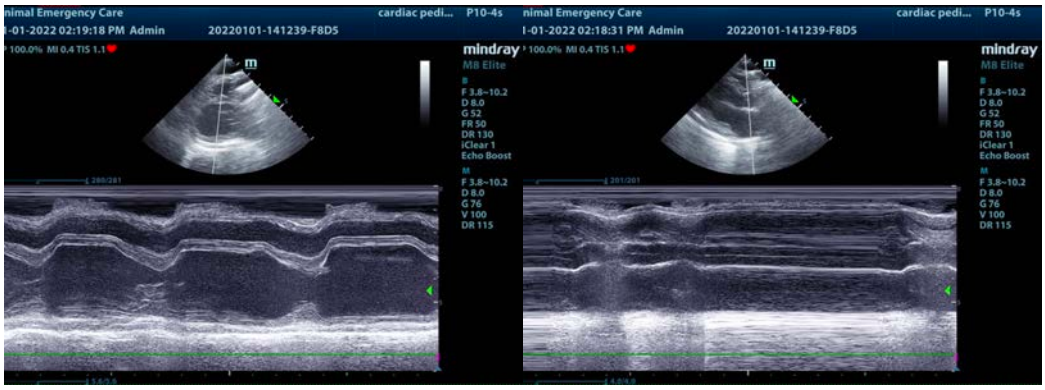
INVOICE

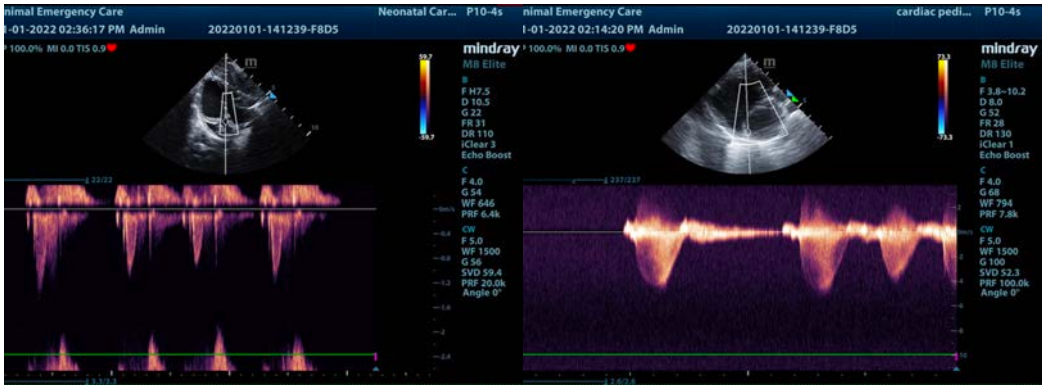
33907

DATE

1/1/22







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