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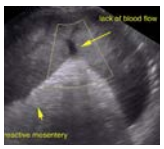
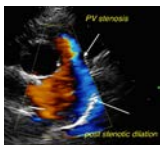
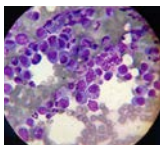
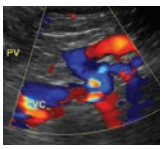

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1-800-838-4268 info@sonopath.com

PATIENT
Dyna Pomerleau

SPECIES
Canine

BREED
Doberman

SEX
Spayed Female

AGE
10 Years

WEIGHT
66 Pounds

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Dr. Ebersole

HOSPITAL NAME
Scanvet

REFERRING VET
Dr. Perkins

INVOICE
40188

DATE
8/5/22

PRESENTING CLINICAL SIGNS

Owner moved from Pacific NW recently, dog declined in health once here. First examined here 7/29/22, mild-mod peripheral lymphadenpopathy, palpably enlarged cranial abdominal organs. Arrhythmia noted. Started on Pimobendan 0.25 mg/kg BID, Benazapril 0.3 mg/kg SID, Furosemide 1.4 mg/kg BID, Spironolactone 2.5 mg/kg SID, Clavamox 437mg BID for severe UTI. Doing better today, wants to be active but has had several near syncope episodes. RRR 24 at home.
Abnormal PE/Chem/CBC/UA Results: PE: very thin with muscle wasting, arrhythmia less noticeable today and HR lower. Peripheral LN reduced in size. RADS (7/29): cardiomegaly and pulmonary edema. Enlarged liver/mass effect in cranial abdomen. BW (7/29): Hct 28%, Alb 2.4, ALT 369. UA (7/29): SG 1.008, WBC, RBC, cocci and chains of rods. ECG (today): long runs of ventricular tachycardia (HR 240 max), with times of normal ECG and HR of 80-90.

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			NM	1.2	15	32	0.58
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	BELOW	BELOW	BELOW	BELOW
PATIENT		1.06	1.69		4.17	4.28	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Mitral insufficiency noted at 5.2 m/sec. The **left ventricle** presented essentially normal to slightly excessive internal diameter with subnormal contractility. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window. Periodic arrhythmia noted.

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.

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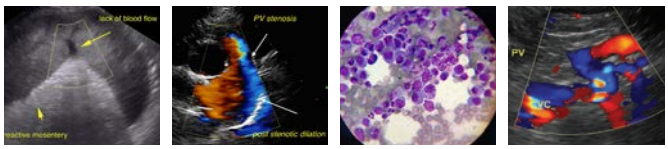

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The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 7.03 cm. The left kidney measured 7.03 cm.

The iliac trifurcation was unremarkable.

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 0.90 cm at the cranial pole and 0.77 cm at the caudal pole.

Spleen

The **spleen** was enlarged with subtle micronodular changes and scalloping contour. Subtle granular type appearance. Reactive surrounding mesentery.

Liver

The **liver** was swollen and irregular in contour. The gallbladder and common bile duct were unremarkable. Heterogeneous iso- to hypoechoic nodular changes noted.

Gastrointestinal

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. A mesenteric lymph node was enlarged, rounded and hypoechoic with nodular and cystic changes, measuring 3.79 cm x 1.22 cm.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

ULTRASONOGRAPHIC FINDINGS

- Mitral insufficiency with subnormal myocardial contractility, Stage B1 valvular disease
- Periodic arrhythmia
- Splenohepatomegaly with irregular contour and micronodular changes
- Mesenteric lymphadenopathy – concern for round cell neoplasia.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No overt DCM parameters other than the poor contractility, which is likely induced by systemic disease and not cardiac disease. FNA spleen, liver and accessible lymph node recommended to assess for round cell neoplasia, which may be inducing the arrhythmogenic activity. Anti-arrhythmic therapy recommended based on EKG results. Poor contractility may also be owing to arrhythmogenic activity. Myocarditis should also be considered, as well as potential grain-free diet issues. Taurine levels would be ideal.

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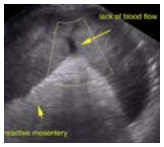
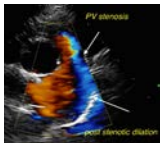
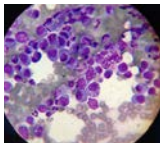
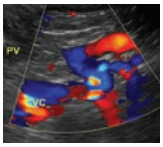

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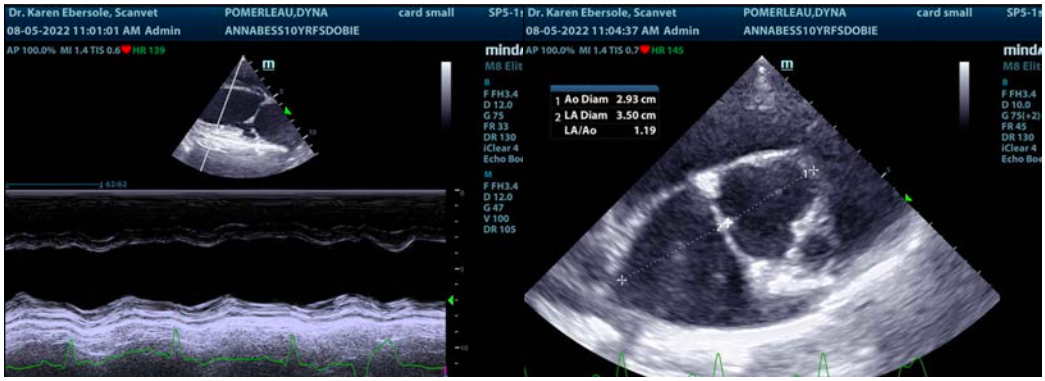

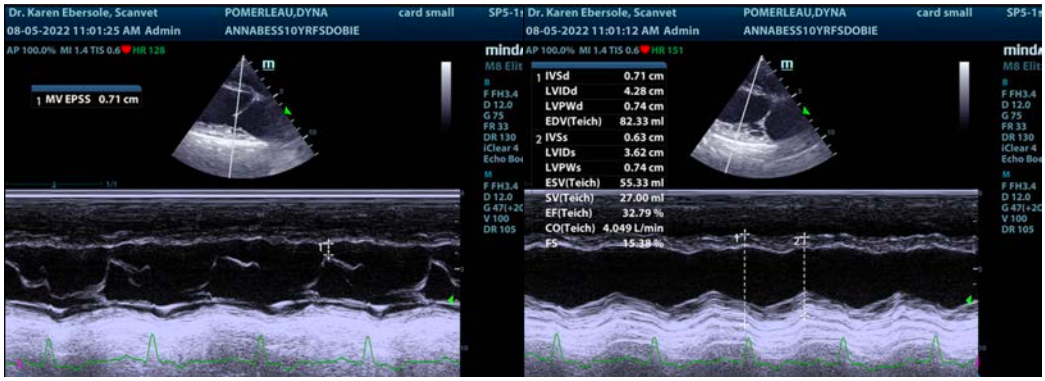

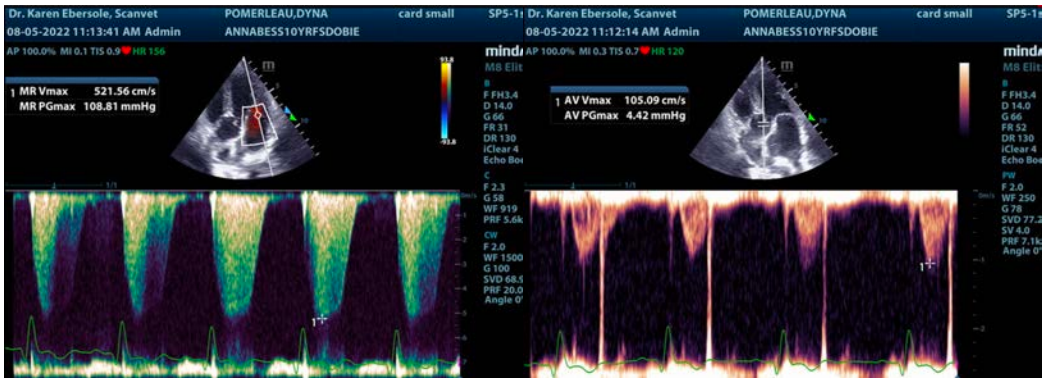

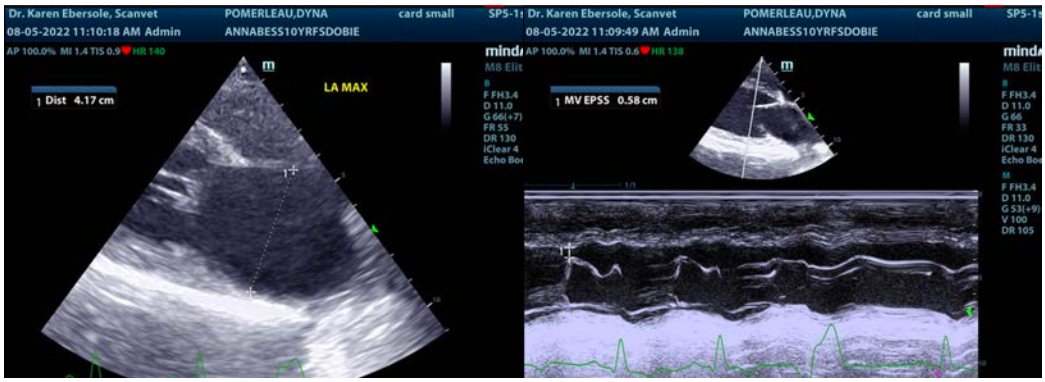

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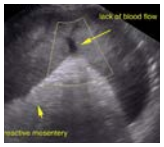
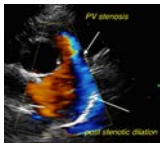
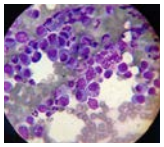
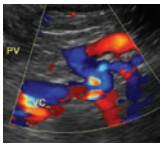

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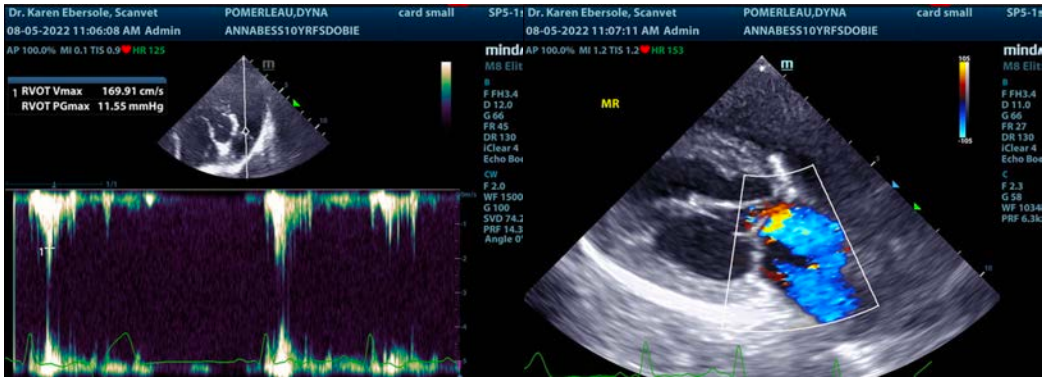

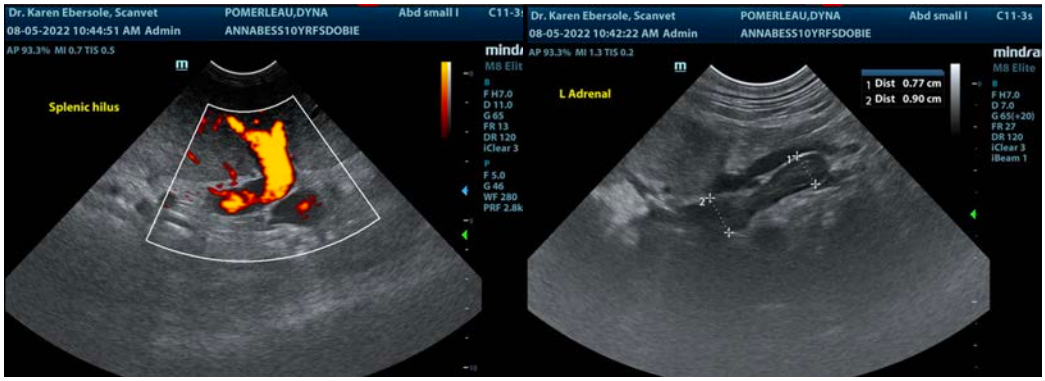

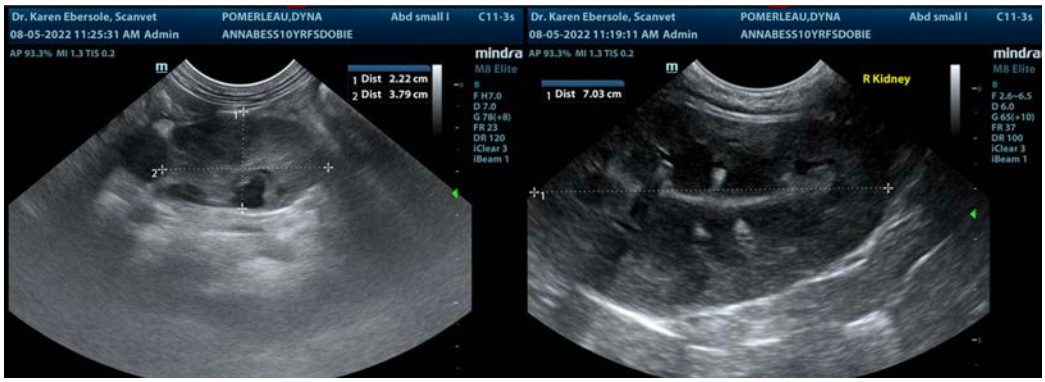

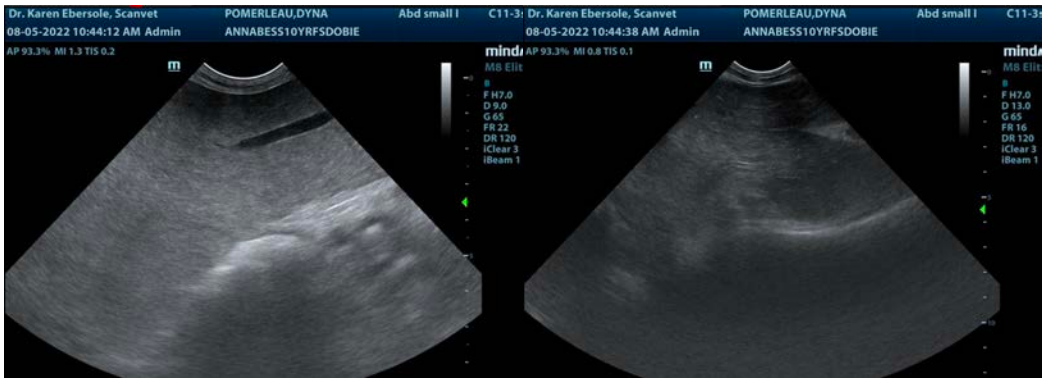

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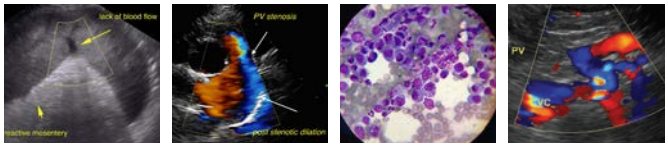

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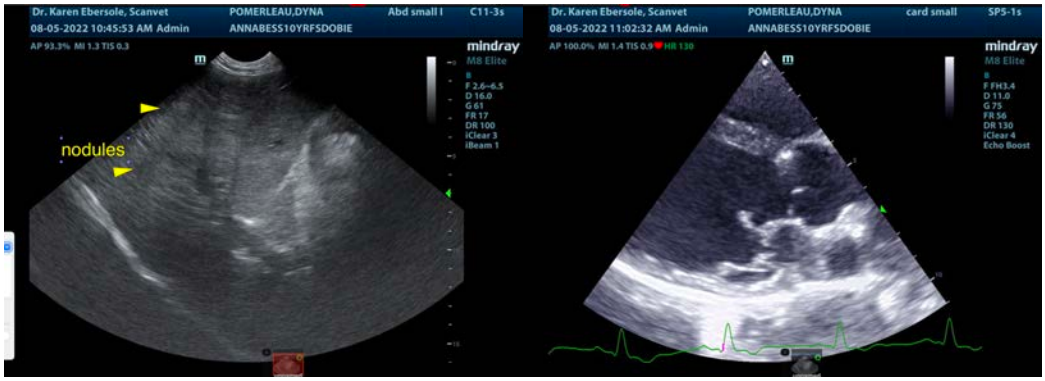

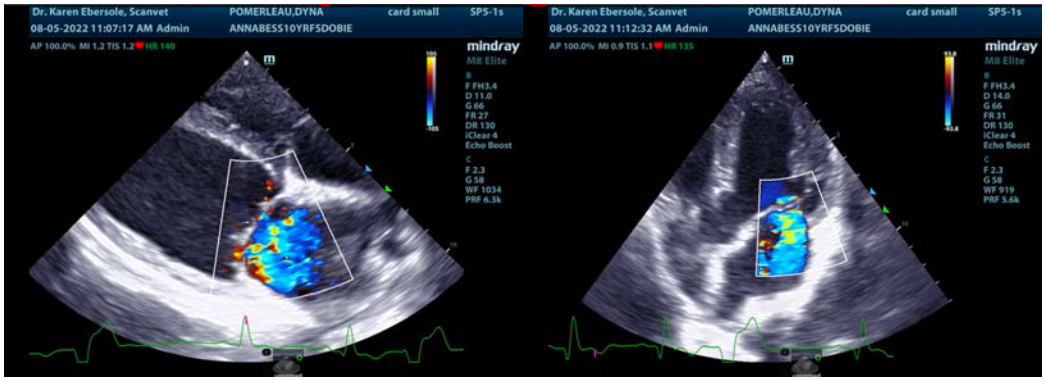

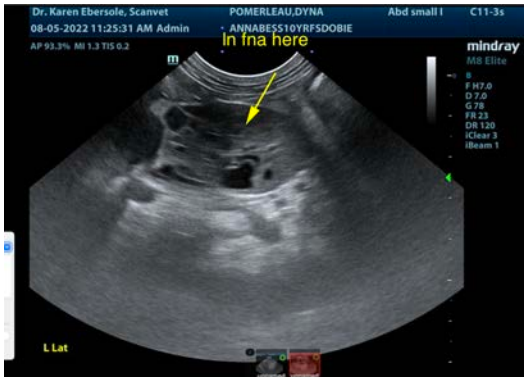

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

info@SonoPath.com