



**PATIENT**

Molly Gooblar

**SPECIES**

Canine

**BREED**

Poodle

**SEX**

Spayed Female

**AGE**

14 Years

**WEIGHT**

12.4 Pounds

**PRESENTING CLINICAL SIGNS**

Probable abdominal mass, decreased appetite, syncope (falls over when walking), dull, lethargic. 5/10/22 (Clavamox, metaclopramide) finished all meds.

Abnormal PE/Chem/CBC/UA Results: Lepto +, rbc 4.84, hct 32.3, hgb 11.8, Retic 131.7, wbc 19.45, neu 16.13, mno 1.95, mpc 16.4, bun 32, TP 5.1, GGT 13, Chol 98, CL 106

**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			1.26	1.28	38	71	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	BELOW	BELOW	BELOW	BELOW
PATIENT	138	1.2	0.81			2.23	

**INTERPRETED BY**

Eric Lindquist, DMV

DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Shari Reffi, CVT

**HOSPITAL NAME**

Animal General VH

**REFERRING VET**

Dr. Pileci

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**DATE**

6/6/22

**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. Doppler indicated measurable 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 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). Non-cardiogenic pleural effusion 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.

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



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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 4.17 cm. The left kidney measured 4.17 cm.

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**Adrenal Glands**

The **right 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 right adrenal gland measured 1.34 cm x 0.86 cm at the cranial pole and 0.55 cm at the caudal pole.

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The **left adrenal gland** was enlarged, irregular and nodular, measuring 2.2 cm x 1.23 cm at the cranial pole and 0.59 cm at the caudal pole.

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**Spleen**

The **spleen** revealed a mixed echogenic 5.0 cm mass with surrounding free fluid/ascites.

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**Liver**

The left **liver** presented a separate mass, consistent with metastatic disease. The gallbladder was unremarkable.

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**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. No associated abnormal lymphatic activity was noted.

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**Pancreas**

DABVP, Cert. IVUSS

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.

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**Free Abdomen**

Echogenic free fluid noted throughout the mid abdomen. Omental nodular changes noted.

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**ULTRASONOGRAPHIC FINDINGS**

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- Compensated mitral insufficiency, no volume overload
- Non-cardiogenic pleural effusion
- Splenic mass with free fluid – suspect rupture or paraneoplastic effusion. Hemangiosarcoma likely.
- Concurrent left adrenal nodule/mass – adenoma, adenocarcinoma, pheochromocytoma, likely non-related comorbidity.
- Hepatic mass – consistent with metastatic disease.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Splenohepatic, thoracic and omental neoplasia – hemangiosarcoma pattern or similar. Given the non-cardiogenic pleural effusion in this patient and the abdominal presentation, metastatic disease to the chest is likely. Pleurocentesis and cytospin could be considered to assess for exfoliating neoplasia in the chest. However, this presentation is highly suspicious for dual cavity neoplasia, and clean removal of the

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splenic mass is unlikely, given the regional omental involvement. The left pancreatic limb also appears to be overlying or involved with the splenic pathology. Prognosis is poor. Humane euthanasia should be considered in this patient.

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**Radiographs: Mid abdominal mass, appears to be renal. Minor generalized cardiomegaly.**

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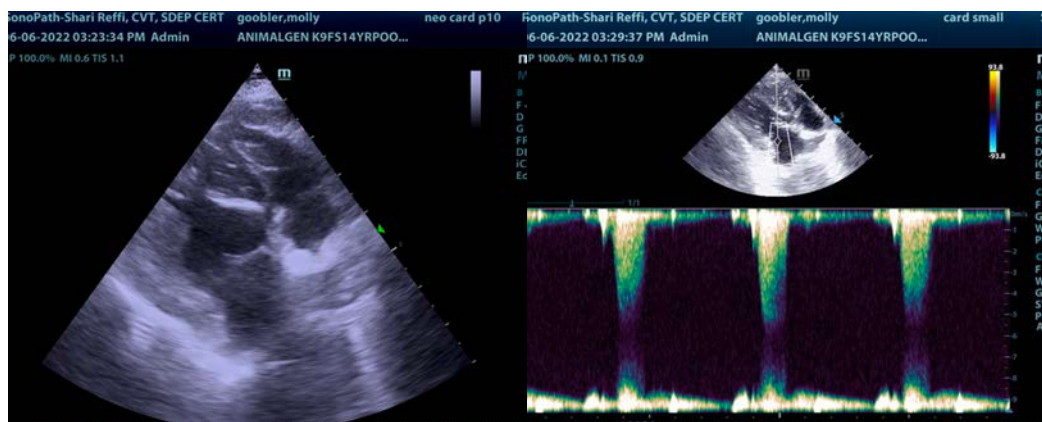
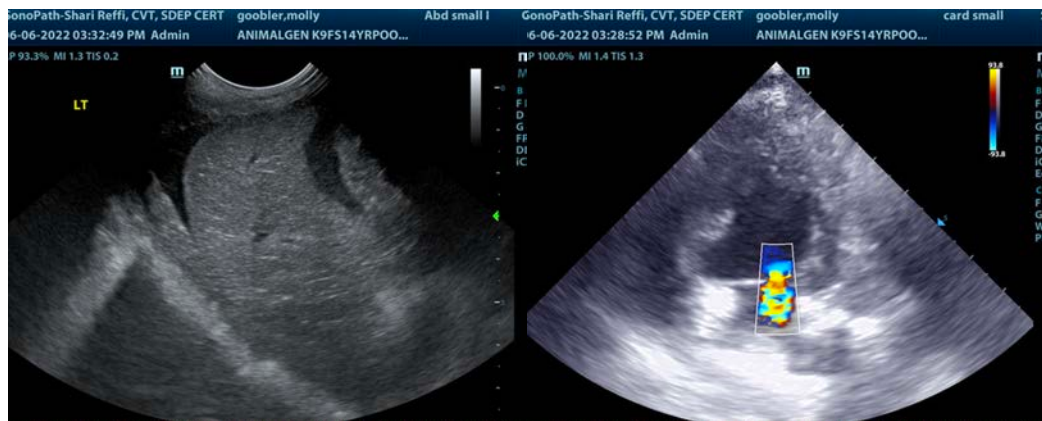
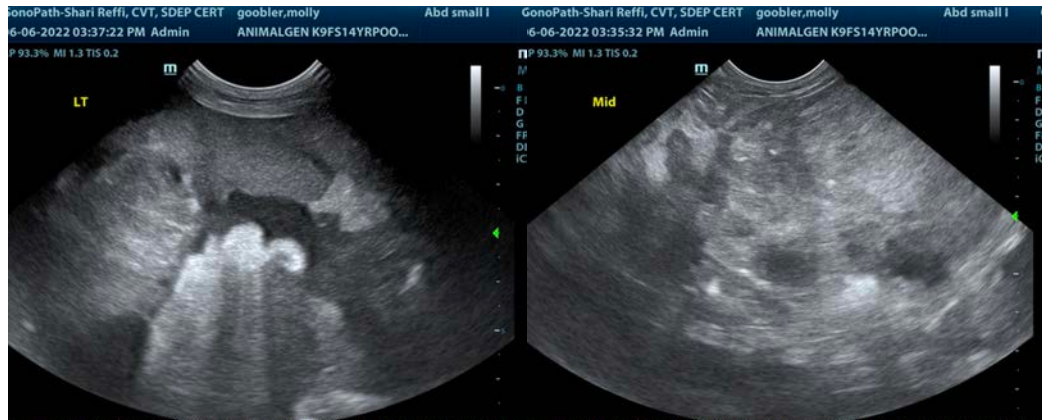
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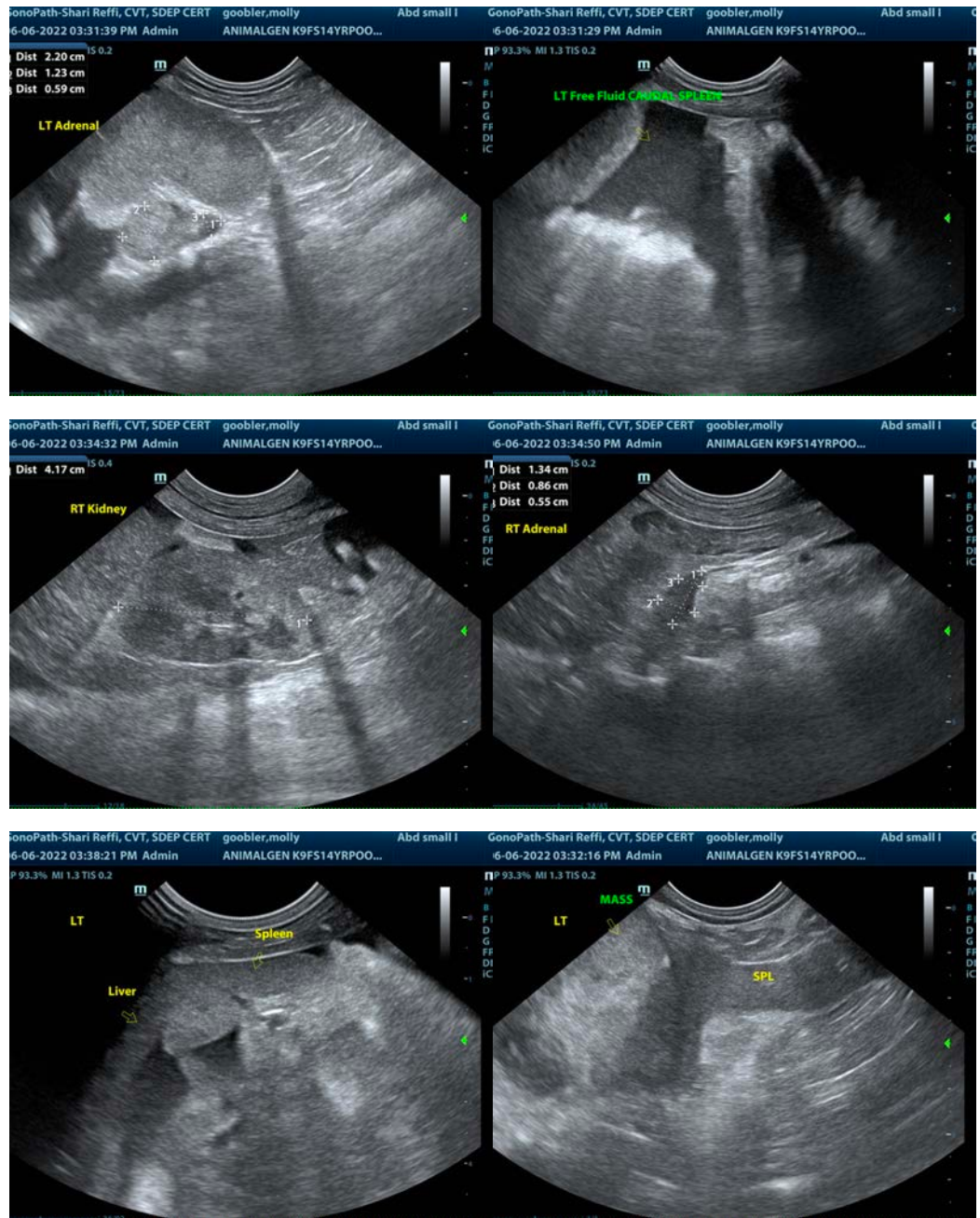
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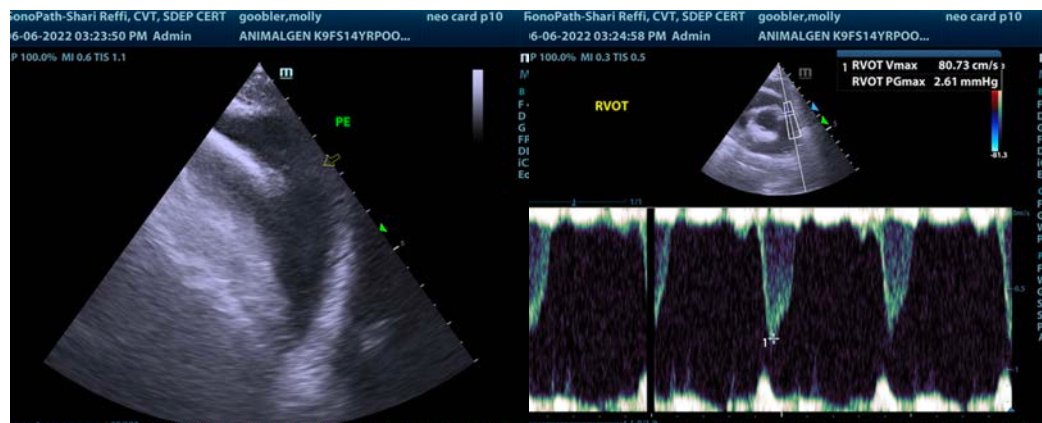
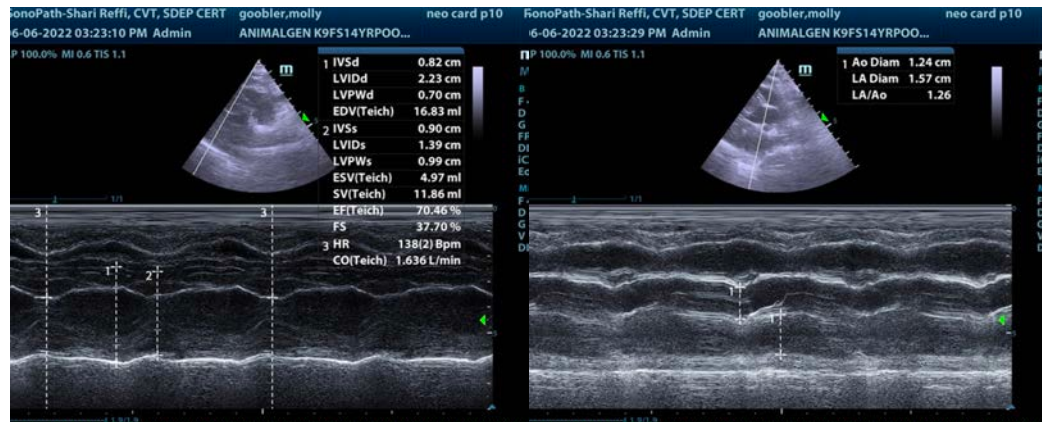
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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