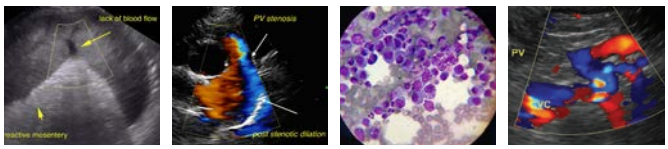
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Bella Kimmel

SPECIES
Canine

BREED
Greyhound

SEX
Spayed Female

AGE
10 Years

WEIGHT
66 Pounds

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Shari Reffi, CVT

HOSPITAL NAME
Newton Vet Hospital

REFERRING VET
Dr. Kim

INVOICE
41244

DATE
9/12/22

PRESENTING CLINICAL SIGNS

Abdominal and pleural effusion, low albumin, presented with pyrexia, vomited 2x, more lethargic. Current meds: Cerenia

Abnormal PE/Chem/CBC/UA Results: Albumin 2.0, USG 1.040, Protein 1+

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			1.2	1.16	32	59	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	BELOW	BELOW	BELOW	BELOW
PATIENT	87	1.4	0.81		5.0	5.45	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Trivial **mitral** insufficiency 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. Minor **aortic** insufficiency noted, not clinically significant at 5.0 m/sec. 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).

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** were mildly swollen. The right kidney measured 7.86 cm. The left kidney measured 7.12 cm. Cortical infarcts noted in the caudal pole of the left kidney and cranial pole of the right kidney. Right kidney infarct appeared to have active inflammation, suggestive for recent infarct.

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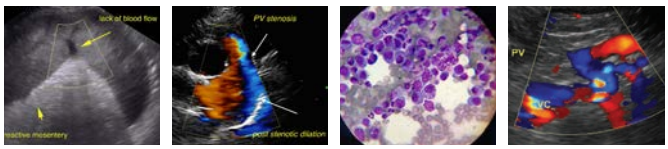

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Adrenal Glands

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 right adrenal gland measured 3.12 cm x 0.79 cm at the cranial pole and 0.74 cm at the caudal pole. The left adrenal gland measured 2.09 cm x 0.55 cm at the cranial pole and 0.41 cm at the caudal pole.

Spleen

The **spleen** presented mild irregular contour. Subtle heterogeneous parenchymal changes. The spleen was folded upon itself cranially.

Liver

The **liver** was mildly swollen and slightly irregular. The gallbladder and common bile duct were unremarkable.

Gastrointestinal

Some areas of mucosal fogging noted in the small intestine, suggestive for protein losing enteropathy. Soft stool noted in the colon. Reactive mesenteric lymph nodes noted, measuring 2.5 cm x 0.88 cm at the cranial pole and 0.65 cm at the caudal pole.

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.

Other

Pleural effusion noted through the diaphragm.

Slight amount of abdominal free fluid noted.

ULTRASONOGRAPHIC FINDINGS

- Normal echocardiogram with trivial mitral and aortic insufficiency, no evidence clinical disease
- Non-cardiogenic pleural effusion, exact cause unknown
- Irregular spleen and liver with multifocal lymphadenopathy and free fluid
- Small intestinal mucosal fogging
- Renal infarcts

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No significant volume overload or cardiac dysfunction. Chest CT would be ideal. Screening FNA screen and liver warranted +/- pleurocentesis if accessible to assess for round cell neoplasia. FNA of accessible lymph nodes also warranted. Strong concern for underlying round cell neoplasia. The albumin level is reported to be 2.0, which is too high for spontaneous fluid formation. However, if the albumin at the time of the sonogram was 1.5 or less, then the free fluid may be owing to poor oncotic pressure alone. Regardless, the spleen, liver, and accessible lymph nodes should be aspirated to assess for underlying round cell neoplasia.

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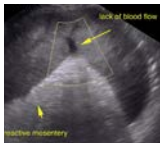
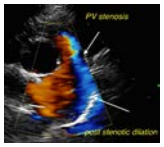
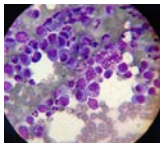
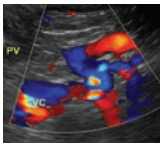

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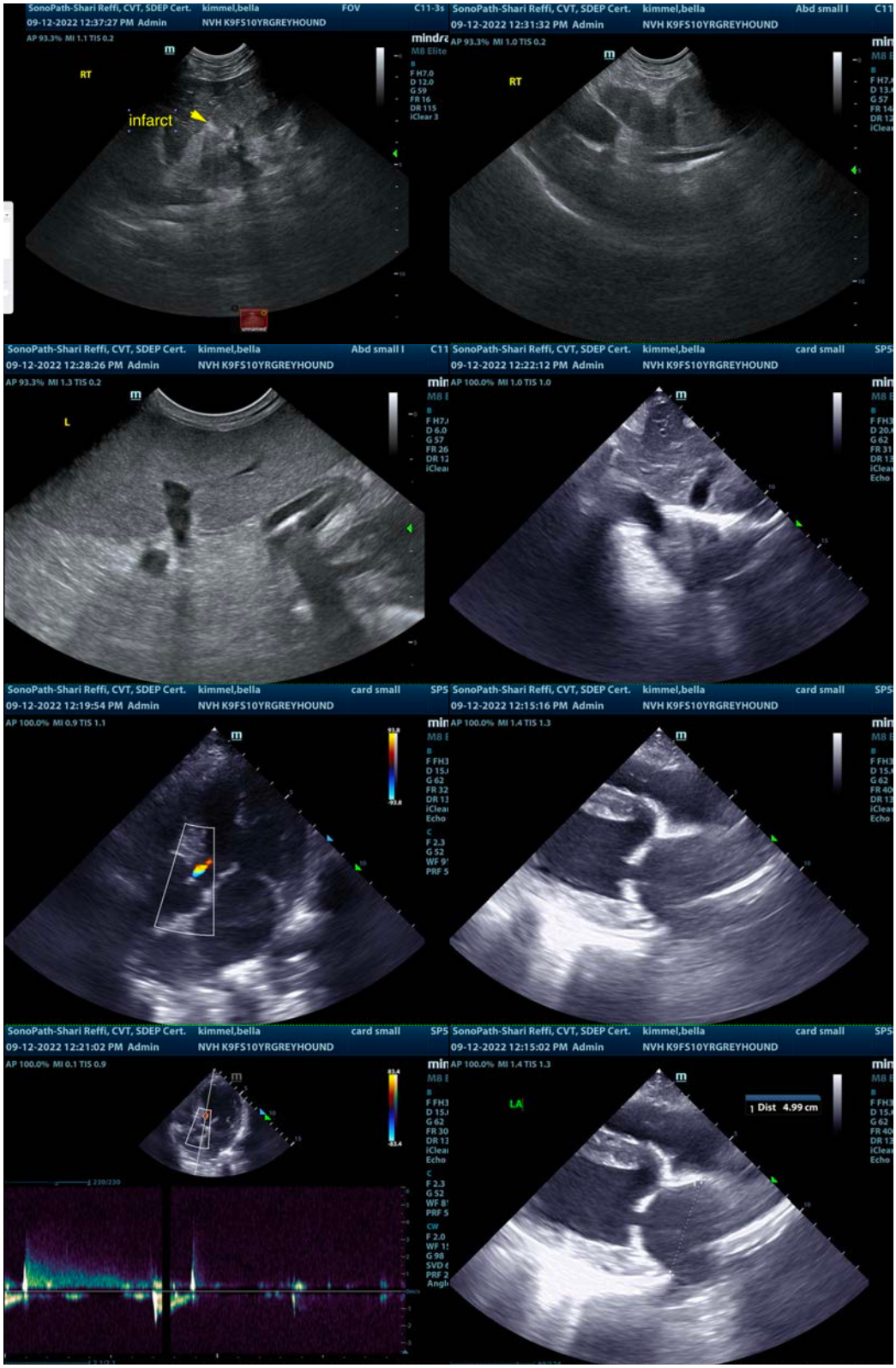

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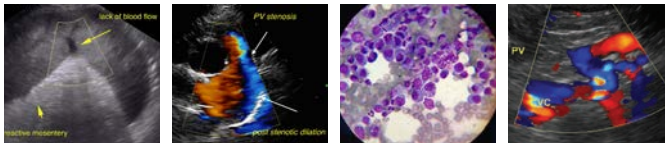

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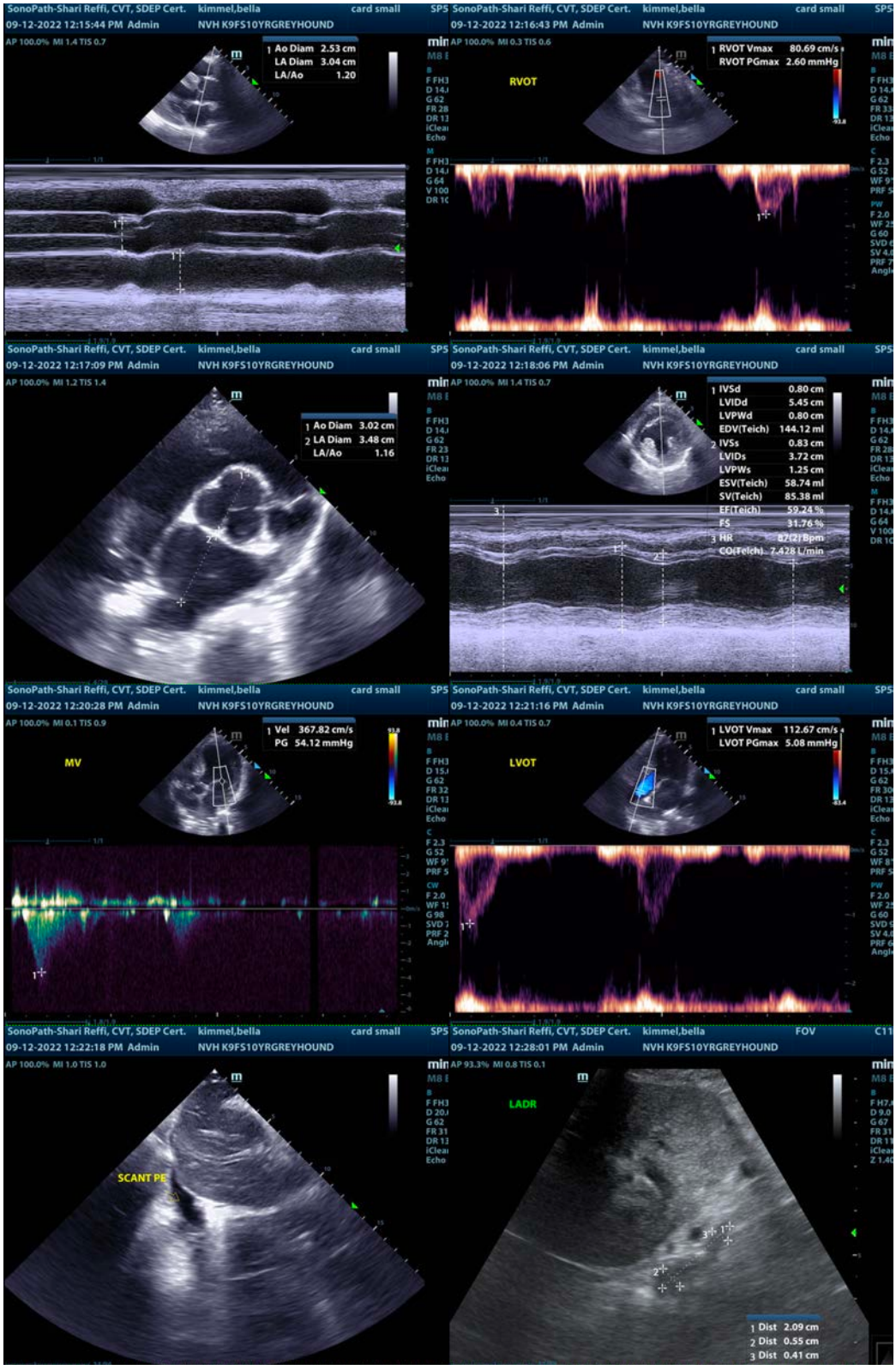

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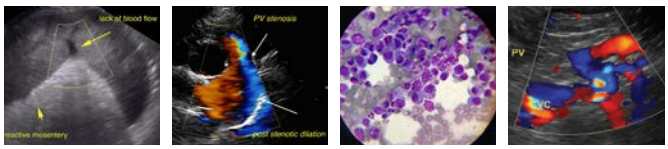

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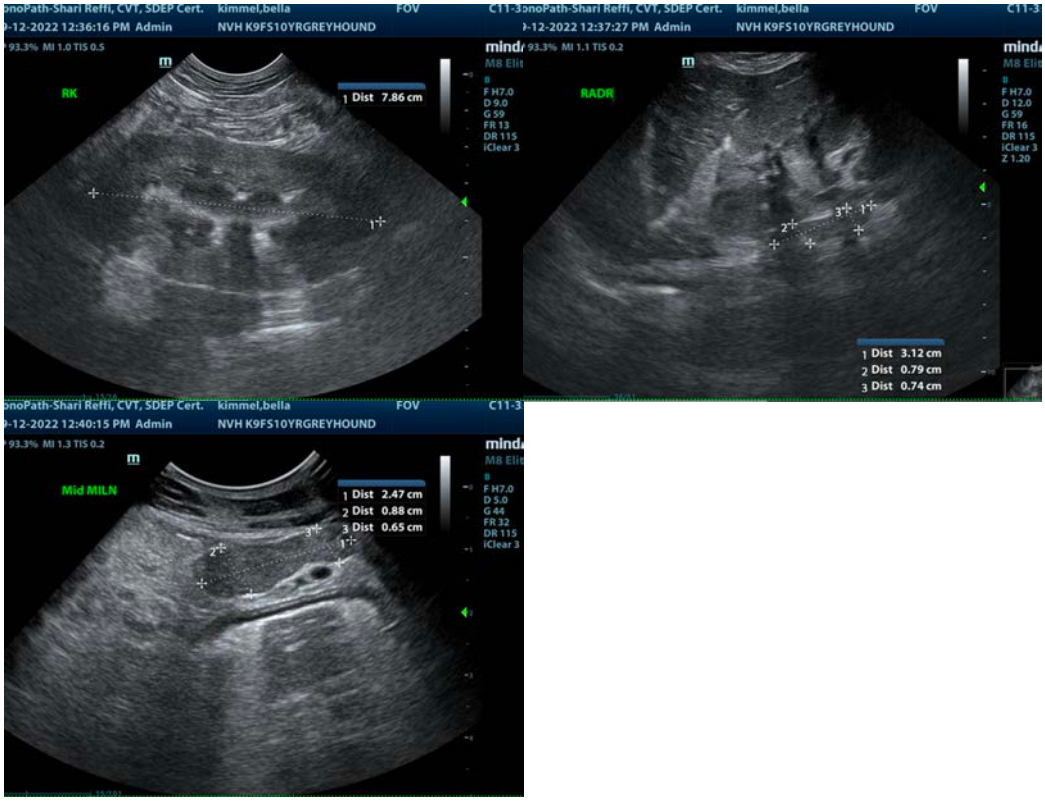

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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