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Clinical Sonography & Telecytology
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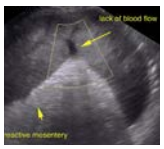
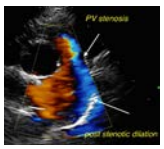
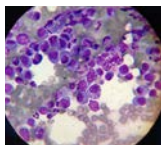
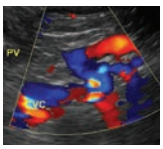





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Lola Evans

SPECIES
Canine

BREED
Yorkshire Terrier

SEX
Spayed Female

AGE
12 Years

WEIGHT
8.7 Pounds

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Shari Reffi, CVT

HOSPITAL NAME
Newton Vet Hospital

REFERRING VET
Dr. Barron

INVOICE
45747

DATE
3/8/23

PRESENTING CLINICAL SIGNS

Trouble breathing, hx chronic degenerative valve dz. Current meds: Pimobendan, Metronidazole, sucralfate, Furosemide, Spironolactone.

Abnormal PE/Chem/CBC/UA Results: 3/3/2023- bun 108.6, Ca 12.3, TP 7.7, Alb 4.7, Na 153, K 3.5, wbc 4.28, neu 3.0

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			1.78	2.0	52	85	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	119	1.4	1.13		3.19	2.82	

Cardiac Presentation

The cardiac presentation revealed mild to moderate volume overload of the left atrium with increased left atrial size compared to prior sonogram. Prolapse of the anterior mitral valve leaflet noted. B-lines noted, consistent with pulmonary edema. However, the pattern sonographically would be more consistent with primary lung disease, even though some volume overload is present in the left atrium.

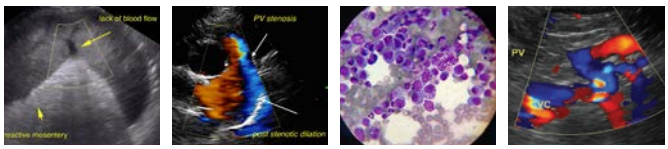
Urinary System

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 4.78 cm. The left kidney measured 4.5 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



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unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 1.86 cm x 1.05 cm at the cranial pole and 0.69 cm at the caudal pole. The left adrenal gland measured 1.83 cm x 0.61 cm at the cranial pole and 0.77 cm at the caudal pole.

Spleen

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.

Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

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.

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

- Volume overload left atrium, mild decompensating valvular disease
- Age related abdominal changes, no evidence of primary disease

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Concurrent non-cardiogenic pulmonary edema may be playing a role in this patient. Assessment for primary respiratory disease indicated as well as adjusting the current protocol for left-sided heart failure. The kidneys do not appear end stage, and therefore I presume that the azotemia is likely prerenal. Bronchodilator, broad-spectrum antibiotic, and oxygen therapy all indicated. Continuation of Pimobendan and adjusting Furosemide and Spironolactone may be necessary, given the azotemia, depending upon clinical status. Torbutrol or similar mild sedative could also be considered to diminish oxygen necessary and will not affect the heart appreciable. Thromboembolic disease, concurrent SARDS or pneumonitis could all be playing a role in this patient. Prognosis is guarded.

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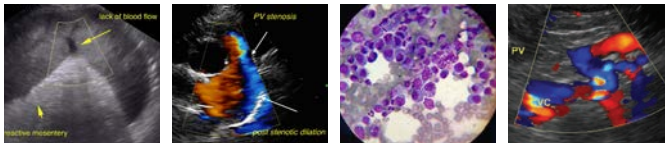

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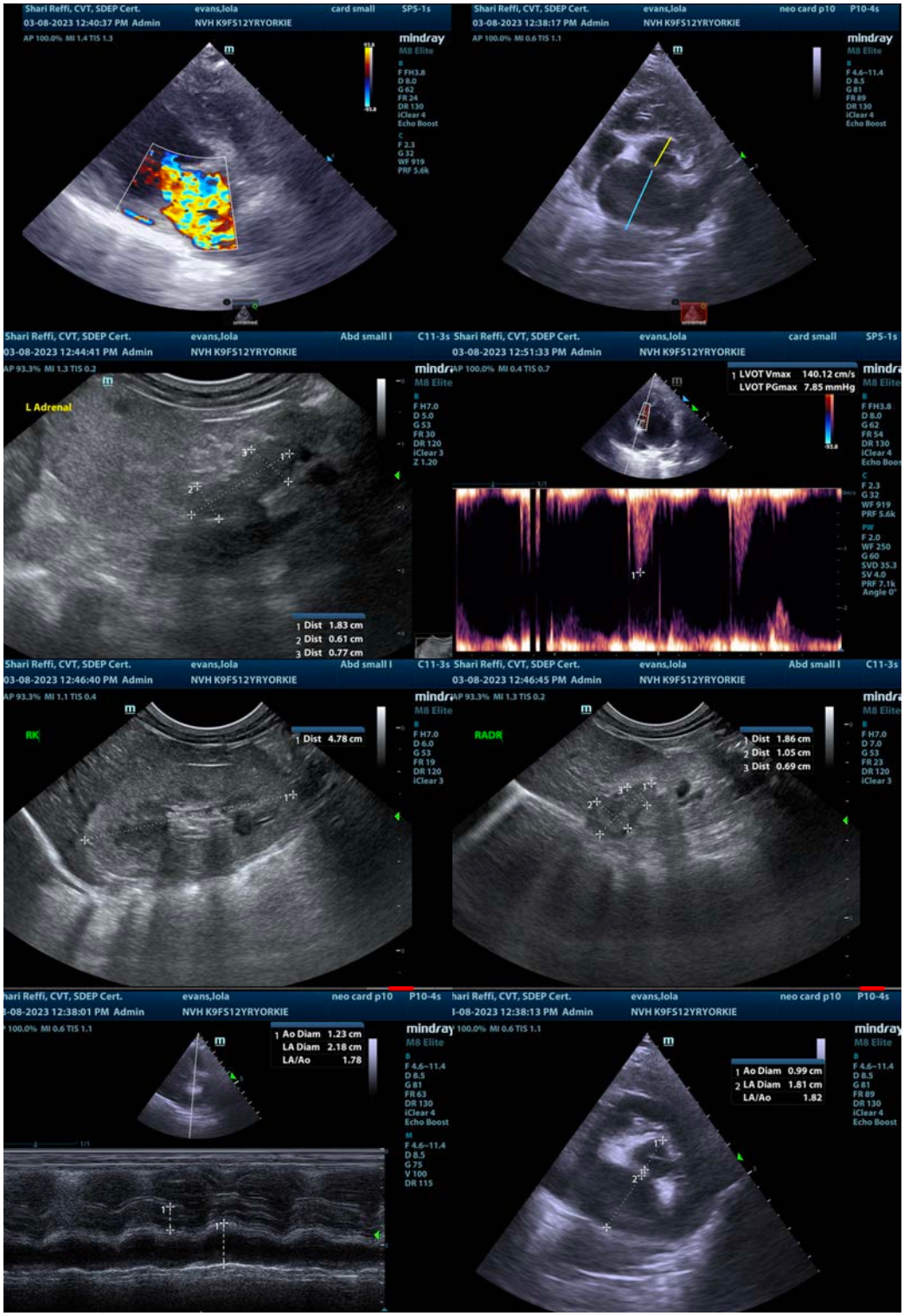

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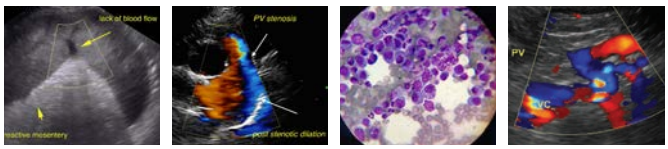

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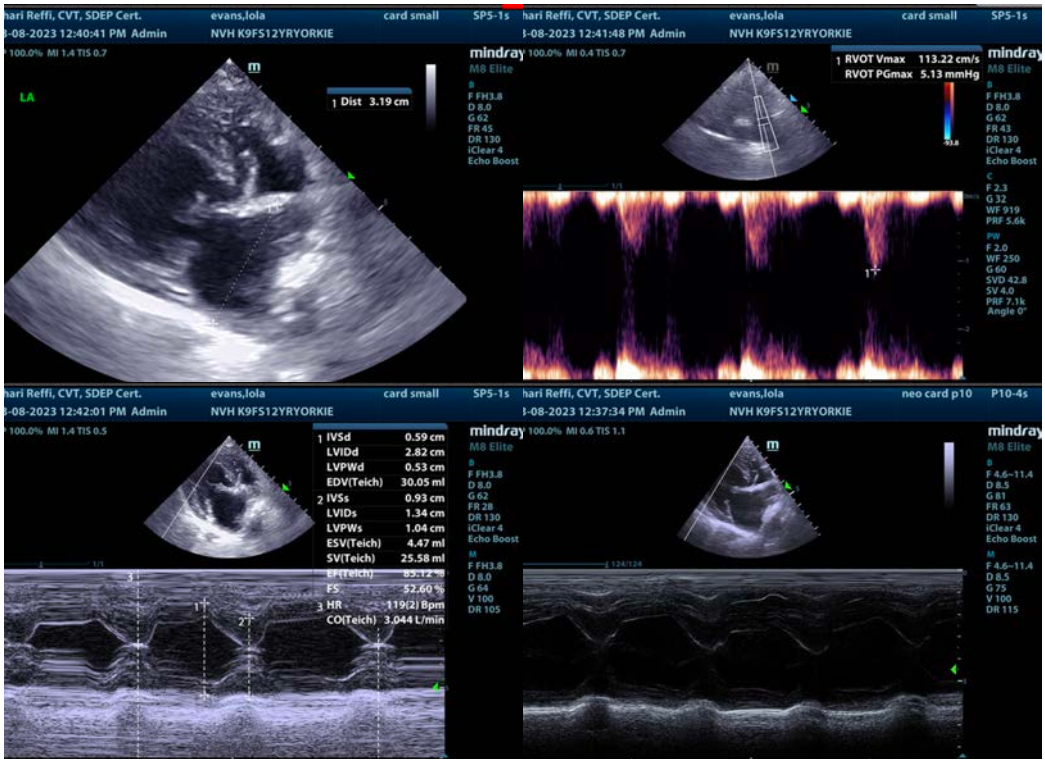

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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