



PATIENT PRESENTING CLINICAL SIGNS

Red Shafer

History: Patient with history of lymphoma diagnosis in August 2022, presents for echo and abdominal ultrasound. Patient was wobbly and fell a few weeks ago. Looking for metastasis.

SPECIES

Abnormal PE/Chem/CBC/UA Results: BUN 37, Lyme (+). Left popliteal LN aspirate - lymphoma.

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

BREED

Pitbull Terrier

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. The **left ventricle** presented normal 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. **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.

SEX

Spayed female

AGE

5 years

WEIGHT

65.3 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez, CVT

HOSPITAL NAME

Riverdale Integrated
VC

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Dr. Kuo

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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		29	56	NM
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	117					4.09	



PATIENT **ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Red Shafer

Urinary System

SPECIES

Canine

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 was noted. Ureteral papillae were normal.

BREED

Pitbull Terrier

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 6.6 cm. An anechoic cyst was noted in the cranial pole of the left kidney and measured 1.15 x 0.7 cm. The left kidney measured 7.77 cm.

SEX

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AGE

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Adrenal Glands

The right adrenal gland was mildly irregular and measured 1.9 x 1.13 cm at the caudal pole and 0.7 cm at the cranial pole. The left adrenal gland measured 2.0 x 0.45 cm at the caudal pole and 0.44 cm at the cranial pole.

WEIGHT

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Spleen

The **spleen** revealed subtle micronodular changes with a honeycomb type pattern and expansive 1.8 x 1.0 cm nodule with disrupted architecture. The splenic lymph node was mildly enlarged and rounded measuring 0.57 cm. Generalized splenomegaly present extending caudally to the urinary bladder.

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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.

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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

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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.

SPECIES

Canine

Free Abdomen

BREED

Pitbull Terrier

The iliac and sublumbar lymph nodes are enlarged, irregular and hypoechoic measuring 4.7 x 2.05 cm on the larger node. Some other smaller lymph nodes were enlarged and rounded.

SEX

Spayed female

ULTRASONOGRAPHIC FINDINGS

Normal echocardiogram. No evidence of cardiac disease.

Multi-centric lymphadenopathy and infiltrative splenic pattern.

AGE

5 years

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Ultrasound-guided FNA of the affected lymph nodes, spleen and liver would be warranted for staging even though the liver does not appear overtly infiltrated. Early micrometastasis is always a potential in these cases with multi-centric round cell neoplasia suspected. Lymphadenitis, splenitis is possible, yet less likely. Chest radiographs are warranted to assess cranial mediastinum and lung fields for metastasis.

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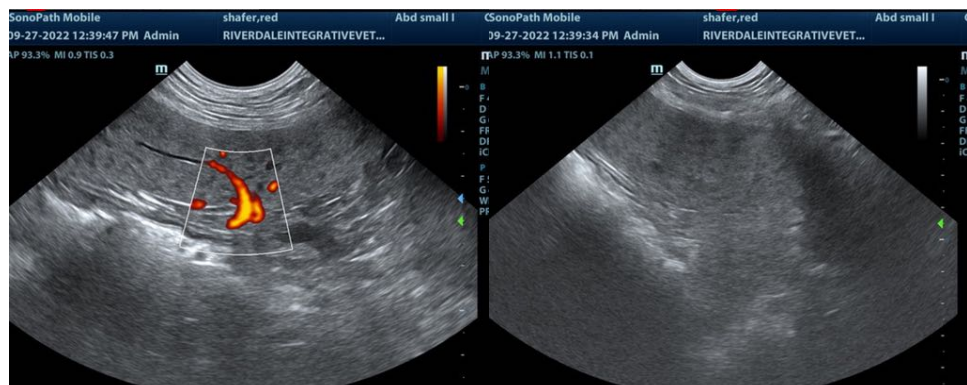
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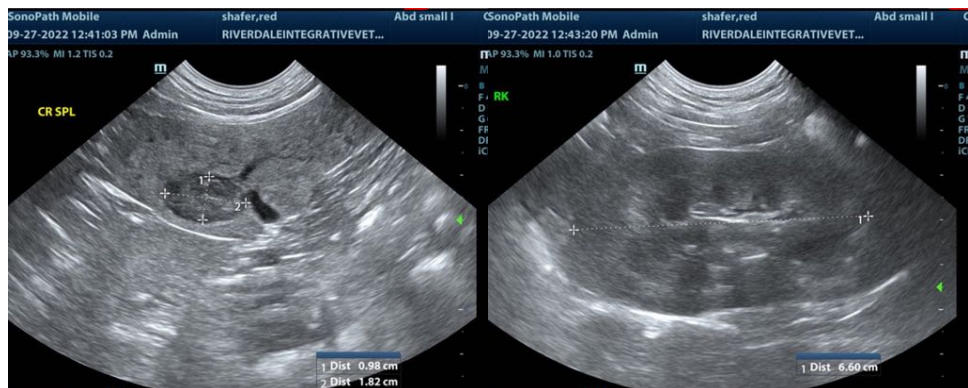
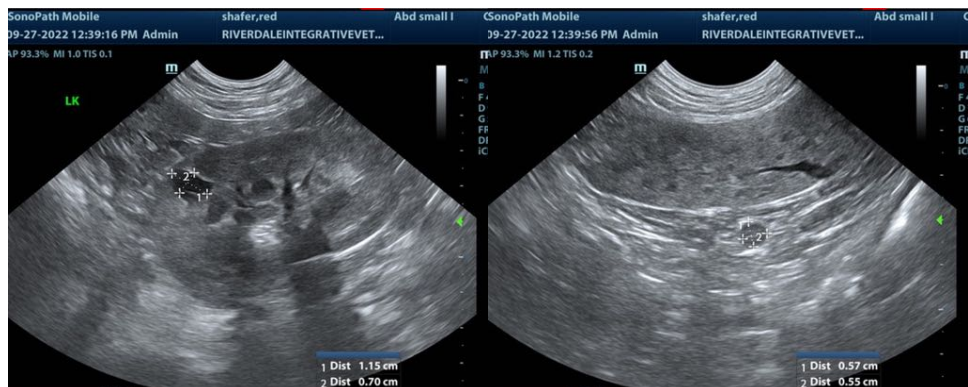
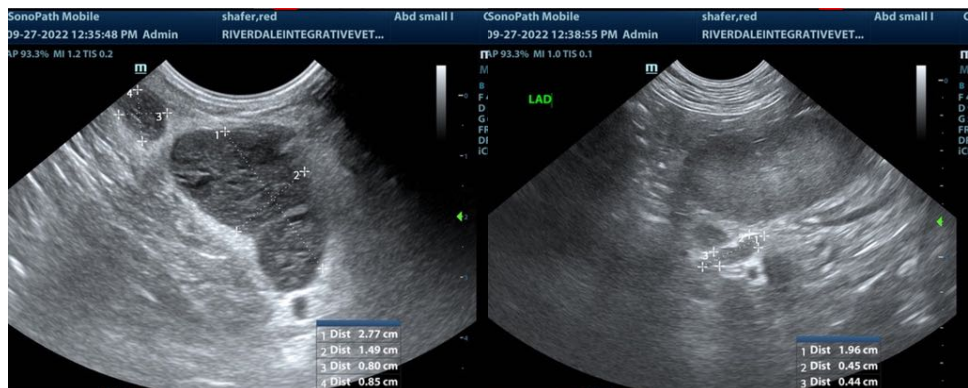
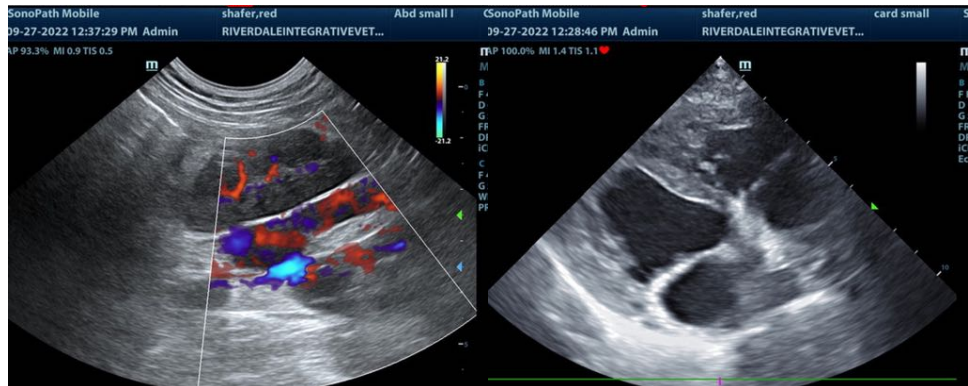
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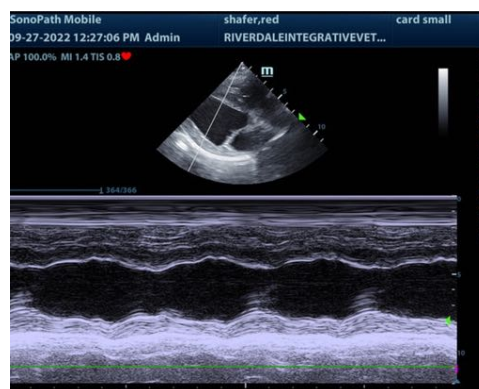
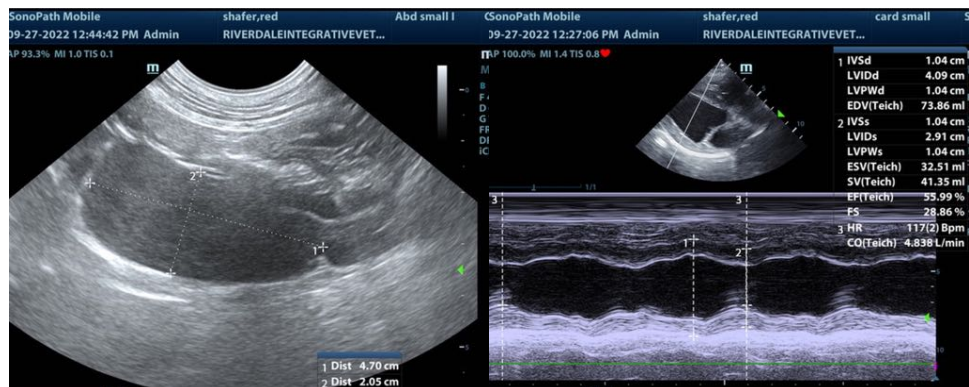
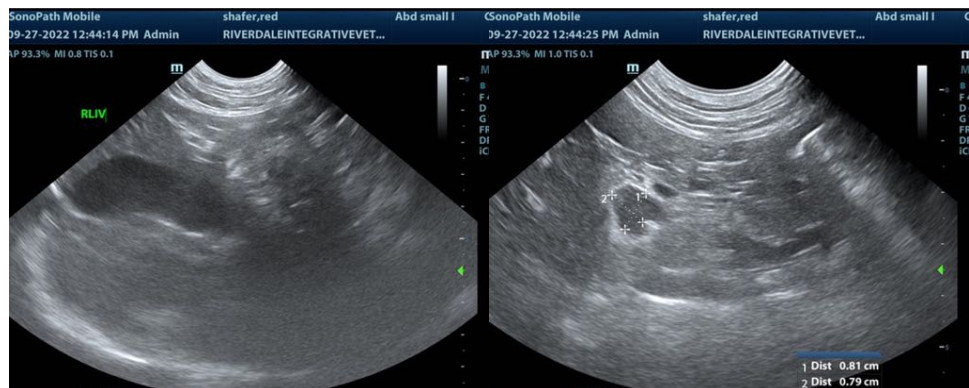
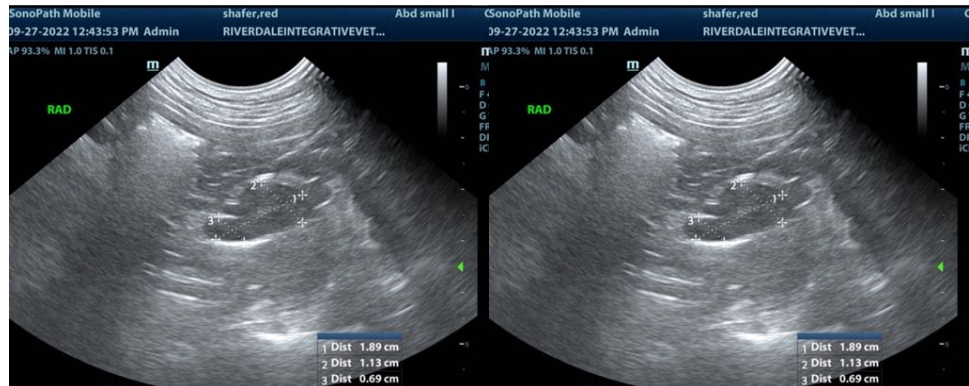
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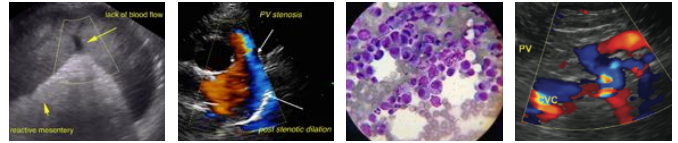
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

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