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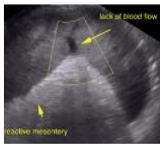
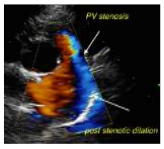
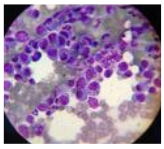
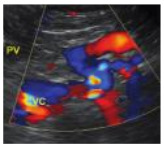

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Duffy Polo-Marulanda

SPECIES

Canine

BREED

Chihuahua Mix

SEX

Neutered Male

AGE

17 Years

WEIGHT

N/A

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

All Creatures Great and Small

REFERRING VET

Dr. Ashmore

INVOICE

16188

DATE

6/20/22

PRESENTING CLINICAL SIGNS

History: Hematuria, mass in chest- pulmonary vs cardiac, R/O TCC (bladder cancer)
Abnormal PE/Chem/CBC/UA Results: RBC 4.1, Hglb 8.3, HCT 28, MCHC29, NRBC 9, Neut 16274, Mono 1854 UA: trace protein, RBC 11-20, Transitional Epithelia 4-10 SG:1.025

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	<1.3	28-40	40-100	<0.6
PATIENT	5.5	1.8	--	1.33	47.4	81.5	0.21
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				
PATIENT	126	1.8	0.85	--	2.3	2.0	--

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 mild eccentric 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. Trace TR was present on color doppler. 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). No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

Urinary System

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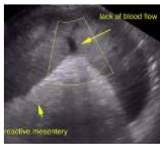
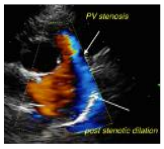
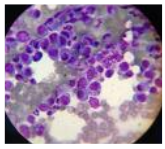
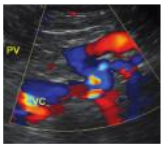

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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

No evidence of medial iliac or sublumbar lymphadenopathy in the area of the iliac trifurcation.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Small cortical cysts were present in both kidneys. The left kidney measured 4.6 cm in length. The right kidney measured 4.7 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 2.3 cm in length x 0.53 cm width at the caudal pole.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 2.4 cm in length x 0.43 cm width at the caudal pole.

Spleen

The spleen was normal in size and contour. Subtle splenic parenchyma heterogeneity was present. Ill-defined hyperechoic splenic parenchyma, adjacent to the splenic hilus was present, which may indicate minor benign myelolipomas or minor medial capsule fibrosis. No evidence of splenic neoplastic criteria.

Liver

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion. Intermittent nonhomogeneous intraparenchymal nodules were present. An example of nodule measured 2.2 cm in diameter.

The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

Free Abdomen

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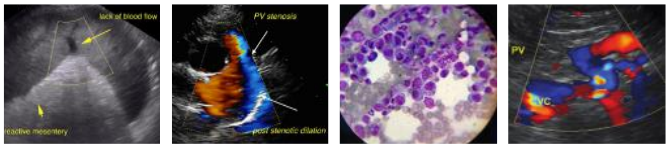

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Unspecified, moderately sized, asymmetrical to nonhomogeneous mass was present in the area of the left kidney, measuring approximately 6.0 – 6.5 cm in diameter. The mass was located directly adjacent to the craniolateral left kidney. The mass did not appear to involve or originate from the left adrenal gland or caudal spleen. Minor associated regional free fluid was present.

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B-1)
- Sonographically unremarkable urinary bladder- no evidence of neoplastic criteria
- Minor age-related spleen- no evidence of neoplastic criteria
- Bilateral mild chronic renal changes
- Unspecified mass adjacent to and in the area of the left kidney
- Nonspecific yet highly suspicious intermittent liver nodules

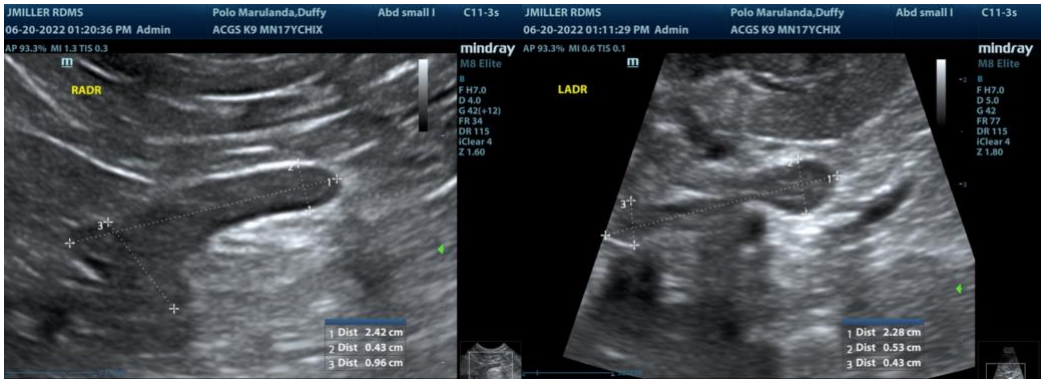
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overall, structurally and functionally normal heart with mild compensated MR. The lack of left atrium enlargement indicates that the relative risk, secondary to MR, is low at this stage. No indication for cardiac medications.

The primary finding in the abdomen is the unspecified mass adjacent to and in the area of the left kidney. Although sampling is required for further assessment, the sonographic appearance of the mass is consistent with neoplastic criteria, i.e., sarcoma, carcinoma or other. A definitive origin of the mass was not obviously evident. Potential origin from a focal point of the craniolateral left kidney is possible given the hematuria, although potential alternative etiologies, i.e., unspecified retroperitoneal mass or other is possible.

Strong suspicion for metastatic nodules to the liver is warranted, in addition to potential pulmonary metastasis.

Ultrasound guided FNA of the mass +/- liver nodule, if accessible, and assuming normal clotting status, could be considered for further assessment. However, unfortunately, a probable long-term unfavorable prognosis is likely indicated.



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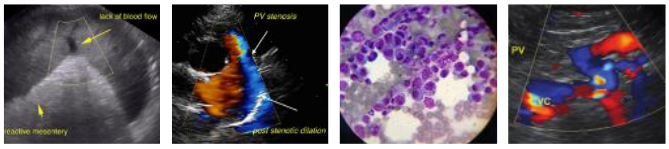

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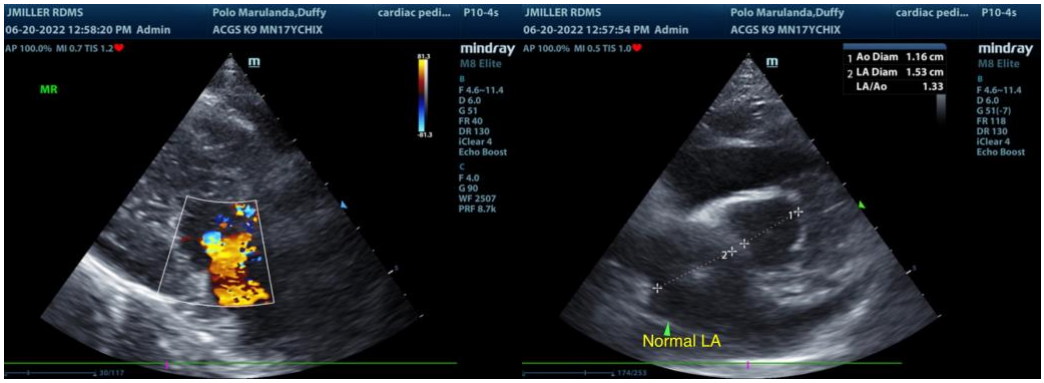

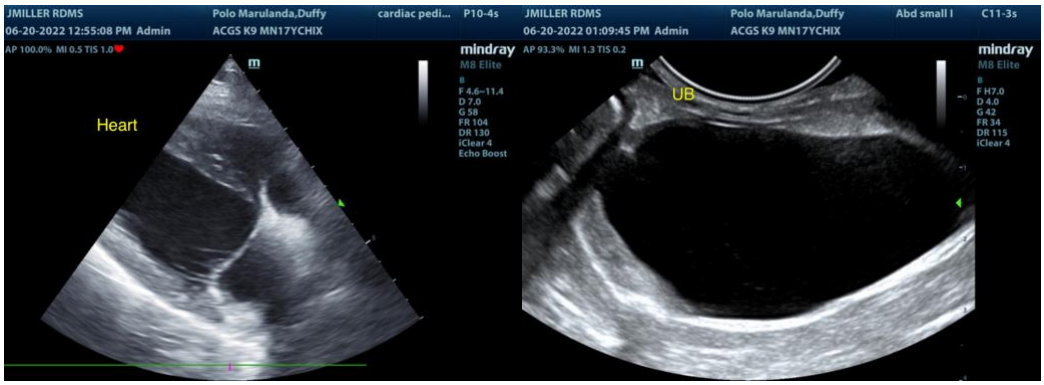

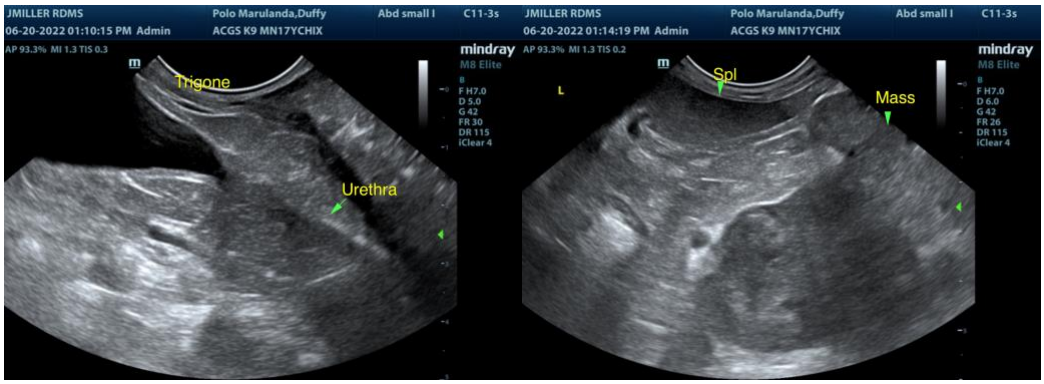

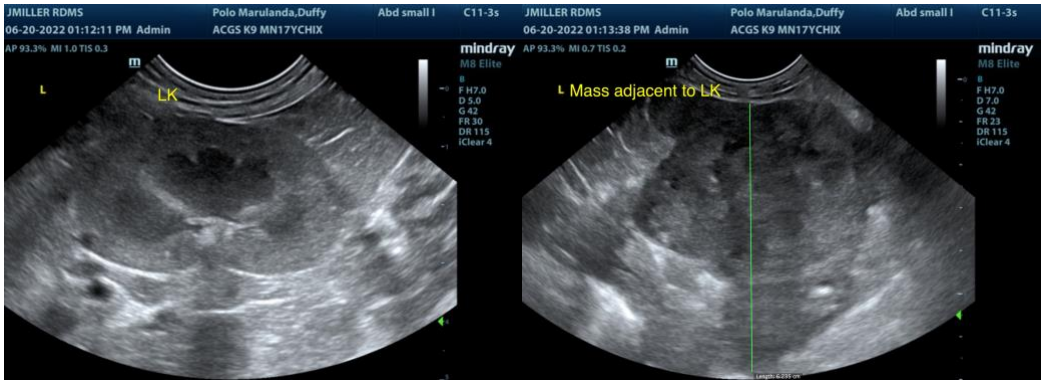

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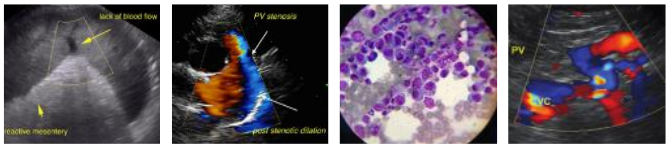

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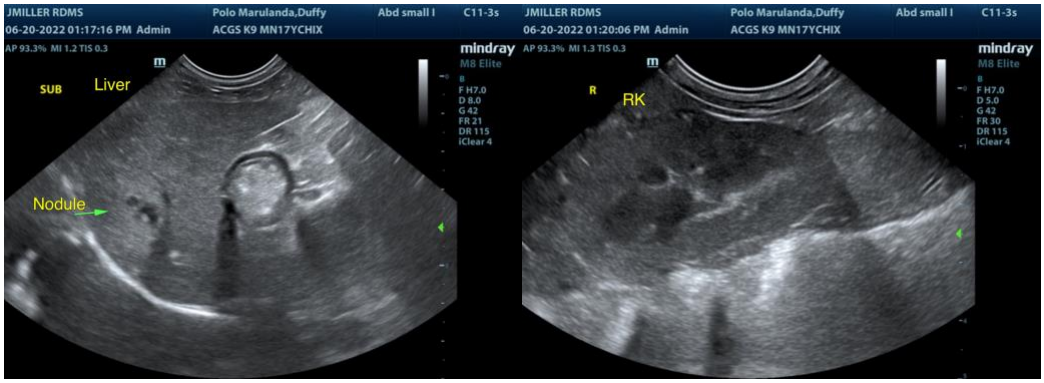

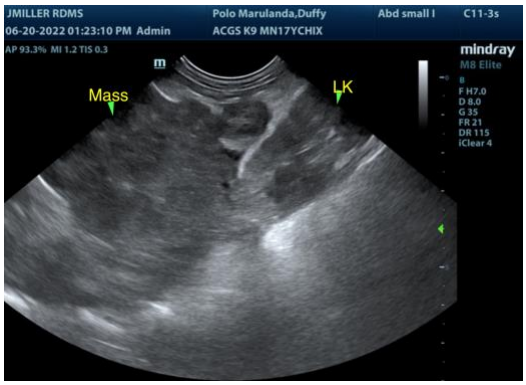

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com