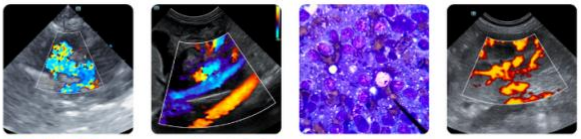

PATIENT

Rex McLaughlan

SPECIES

Canine

BREED

Lab

SEX

Neutered Male

AGE

13 Years

WEIGHT

31.2

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

IMAGING PERFORMED BY

Dr. Brian Barnes

HOSPITAL NAME

Westview Veterinary Hospital

REFERRING VET

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INVOICE

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PRESENTING CLINICAL SIGNS

Splenic mass, ascites, hemoabdomen, Pleural and pericardial effusion. Suspect also cardiac mass Abnormal PE/Chem/CBC/UA Results: Anemia non reg, HCT 18.8 %, Plt 80 (N 148-484 Urea 11.1 (N 2.5-9.6) TT4 8, (N 13-51

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

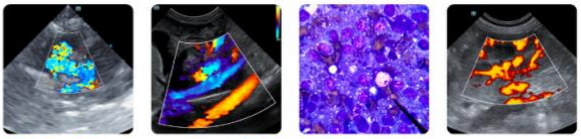
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	--	--	NM	1.1	48	80	0.2
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT**	**LAD** LA MAX 4 Chamber	**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	NM	1.3	0.8	31.2	3.7	4.0	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** dimension based on 2 different LA measurement methods. The cranial and caudal **mitral** valve leaflets presented mild thickening consistent with mild degenerative change with endocardiosis. Doppler revealed mild to moderate eccentric MR. 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 mild thickening with mild TR on 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). Minor pulmonic valve insufficiency on doppler. No overt pericardial effusion with a moderate volume of pleural effusion. A nonhomogenous mass was present in the area of the right atrium/auricle with potential for hyperechoic air entrapment measuring approximately 4.0 cm x 3.0 cm.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or



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sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic change were noted.

The area of the residual prostate appeared normal and free of pathology.

The area of the aortic trifurcation was free of pathology.

Normal size and margination was 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 moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 7.0 cm in length. The right kidney measured 6.9 cm in length.

Adrenal Glands

The left adrenal gland was normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 0.68 cm width in the caudal pole.

The right adrenal gland was not definitively visualized owing to increased periadrenal omental artifact.

Spleen

A mass involving the spleen with secondary asymmetrical capsule expansion and disruption was present in the subjective mid cranial spleen and measured approximately 7.0 cm x 6.0 cm. The parenchyma of the mass was heterogeneous to mixed echogenic with areas of cavitation. The non-affected spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Regional omental inflammation was present around the mass.

Liver & Gallbladder

The liver presented subjective mildly enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion.

The gallbladder was non-distended in size with mild to irregular wall with potential for peripheral lumen or adhered mineralized sediment. No evidence of wall edema or pericholecystic inflammation. 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 contained echogenic, mild to moderate shadowing ingesta without signs of 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.

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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

No obvious visualized significant omental lymphadenopathy was present. A moderate volume of mildly echogenic peritoneal effusion and generalized nonuniform primarily perisplenic hyperechoic omentum.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Compensated mitral valve insufficiency (B1).
- Mild tricuspid/pulmonic valve insufficiency- no evidence of pulmonary hypertension.
- Right atrium/auricle mass versus pericardial pulmonary consolidation/mass with potential air entrapment.
- Splenic mass.
- Noncongested hepatomegaly.
- Bicavitary effusion with suspect hemoabdomen.

Secondary Findings

- Bilateral chronic renal changes.
- Possible chronic cholecystitis versus mineralized peripheral gallbladder lumen debris.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Although histopathology is required for definitive diagnosis, the splenic mass is most suggestive of neoplasia such as sarcoma or other. Benign pathologies are possible yet considered less likely.

The mass in the area of the right atrium/auricle is of unclear cardiac versus pulmonary origin yet given bicavitary effusion of non-cardiogenic origin, multicentric neoplastic criteria is met. Correlation with thoracic and abdominal effusion analysis could be considered. However, curative surgical options appear precluded. An unfavorable prognosis is indicated.

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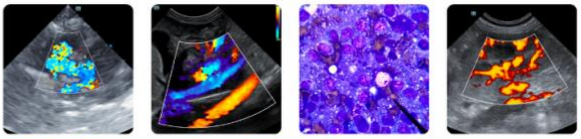

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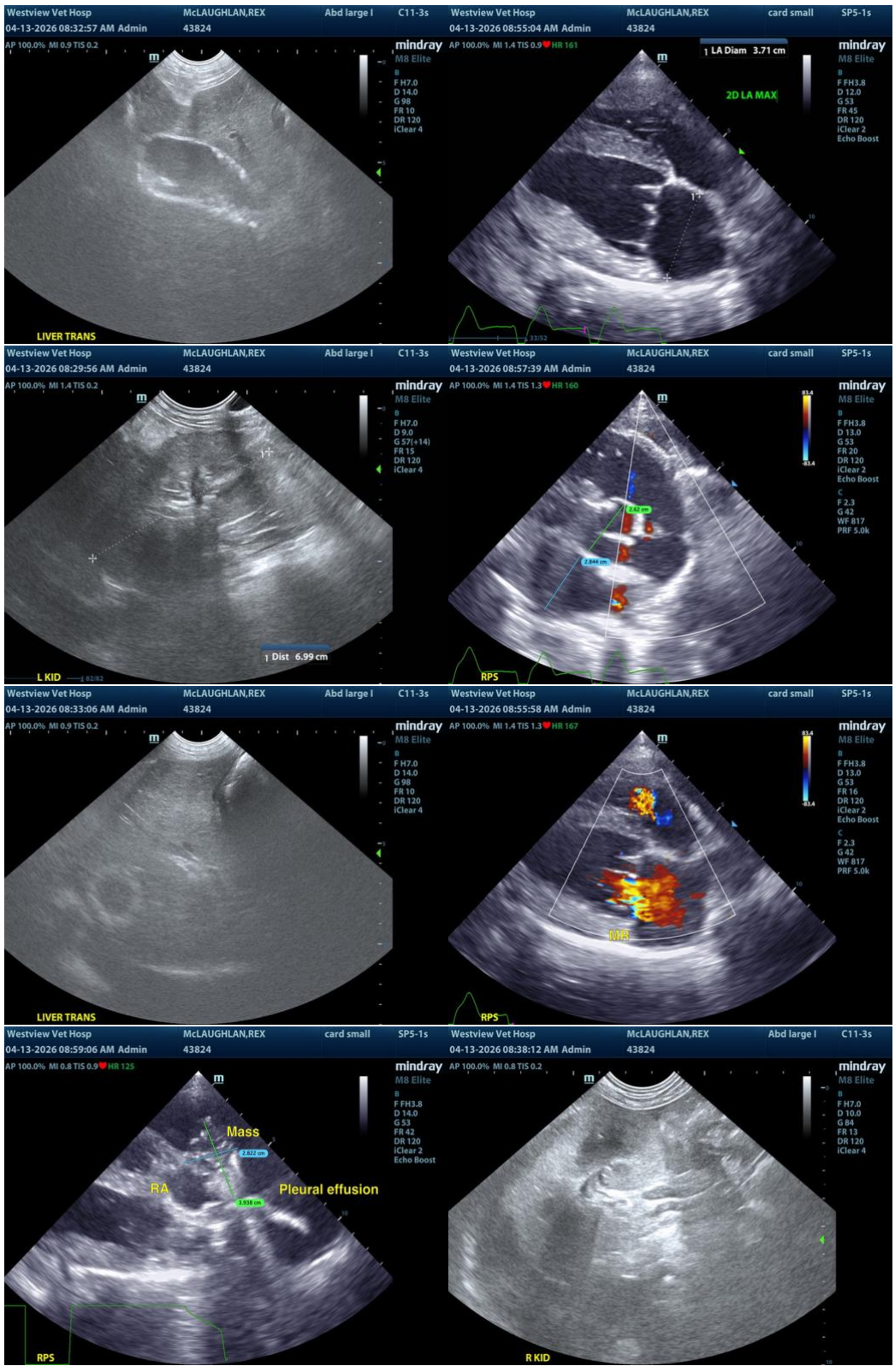

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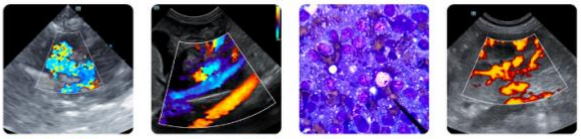

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com