



PATIENT

PRESENTING CLINICAL SIGNS

Bella Leone

Heart murmur, intermittent cough, blue mm, abdominal mass on rads and palpation No current meds.

SPECIES

Abnormal PE/Chem/CBC/UA Results: ^ Alk Phos, mild PSL elevation, ^GGTP, +Lyme on snap UA: +2 blood, +3 protein SG: 1.025

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART

BREED

Yorkie

SEX

FS

AGE

12yr

WEIGHT

9.92lb

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		2.4		1.4	50	85	0.15
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	142	1.3	1.1		3.0	2.7	

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

ACC Landing

REFERRING VET

Dr. Villari

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DATE

05/10/2023

Cardiac Presentation

The echocardiogram for this patient presented excessive left atrial size expressed both in the LA/AO and LA max measurements. The cranial and caudal mitral valve leaflets presented moderate thickening consistent with endocardiosis (anterior > posterior). Doppler indicated moderate 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 concurrent mild thickening with mild centralized 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). Mild pulmonic insufficiency was present measuring 1.9 m/s in diastolic velocity. 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

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra 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.



PATIENT	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 loss of corticomedullary symmetry and definition expected for the age of the patient. Mild bilateral pyelectasia and multiple small cortical cysts were present. The left kidney measured 5.0 cm in length. The right kidney measured 4.9 cm in length.
Bella Leone	
SPECIES	The area of the aortic trifurcation was free of pathology.
Canine	
BREED	Adrenal Glands
Yorkie	The bilateral adrenal glands were mildly prominent in size based on caudal pole width and body weight. No adrenal tumors. The left adrenal gland measured 0.63 cm width at the caudal pole and 2.0 cm length. The right adrenal gland measured 0.61 cm width at the caudal pole and 2.2 cm length.
SEX	Spleen
FS	The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.
AGE	Liver/Gallbladder
12yr	The liver was moderately enlarged with areas of mild asymmetrical to rounded capsule contour. A non-uniform to nodular intraparenchymal mass was present in the deep mid liver measuring ~ 6.0 cm in diameter. Potential for concurrent additional nodules or coalescing masses possible. The hepatic and portal vasculature were normal in appearance without signs of congestion.
WEIGHT	The gallbladder was distended in size with thin walls and moderate non-organized variably hyperechoic sludge. The cystic and common bile ducts were normal.
9.92lb	
INTERPRETED BY	Gastrointestinal
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	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.
IMAGING PERFORMED BY	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.
Jessica Miller	
HOSPITAL NAME	Normal visible colon wall layers were present with apparent formed feces in lumen.
ACC Landing	Pancreas
REFERRING VET	The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.
Dr. Villari	Free Abdomen
INVOICE	No omental masses, overt lymphadenopathy or peritoneal effusion was present.
13766ag	ULTRASONOGRAPHIC FINDINGS
DATE	<ul style="list-style-type: none"> • Chronic mitral valve disease with mild valvular prolapse (ACVIM mild B2) • Tricuspid valve insufficiency-estimated pulmonary pressure gradient suggestive of mild increased pressure yet not overtly consistent with clinical pulmonary hypertension. • Mild pulmonic insufficiency.
05/10/2023	



PATIENT

Bella Leone

- Hepatomegaly with non-homogenous/nodular intraparenchymal mass/es.
- Distended gallbladder with moderate sludge.
- Bilateral mild prominent adrenal glands- nonspecific.
- Chronic bilateral renal changes with cortical cysts and mild pyelectasia.

SPECIES

Canine

- Mild pancreatic remodeling- indicate patient/ age related variant, remodeling owing to previous inflammatory episode or mild to chronic pancreatitis possible.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

BREED

Yorkie

The lack of significant LA enlargement indicates that the risk of complications secondary to MR is relatively low at this stage. The estimated pulmonary pressure gradient based on measured TR velocity in conjunction with lack of pulmonary artery enlargement or cor pulmonale is not overtly consistent with obvious clinical pulmonary hypertension. Emerging pulmonary hypertension of unknown etiology could be a potential in this patient given the current clinical signs and lack of left heart volume overload.

SEX

FS

No indication for medical therapy associated with MR. Exercise restriction is advised. If strong clinical suspicion of pulmonary hypertension including correlation with evidence of primary airway disease, a sildenafil trial 0.5-1.0 mg/kg PO BID initially with assessment of clinical response could be considered. Systemic BP evaluation recommended to assess for evidence of systemic hypertension. The prognosis is highly variable and serial sonographic monitoring is required for further assessment. Recheck echocardiogram recommended in 6 months, sooner if progressive clinical cardiac/respiratory signs arise.

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The pyelectasia may be owing to chronic renal changes, potential pelvic scarring possibly owing to previous calculi passage or IV fluid therapy (if applicable). Urine C/S and protein: creatinine ratio on sterile urine sample is recommended.

INTERPRETED BY

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

The overall hepatomegaly including the intraparenchymal mass/es may indicate benign vs neoplastic etiologies i.e., hematopoiesis, hyperplasia, granulomas, low grade carcinoma or other. Assuming normal clotting status a hepatic FNA for screening cytology could be considered for further assessment. Suspect concurrent non-obstructive cholestasis given gallbladder distention and debris with potential for inflammatory hepatobiliary criteria i.e., cholangiohepatitis. Hepatosupportive medications such as Denamarin and Ursodiol may prove beneficial.

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

ACC Landing

REFERRING VET

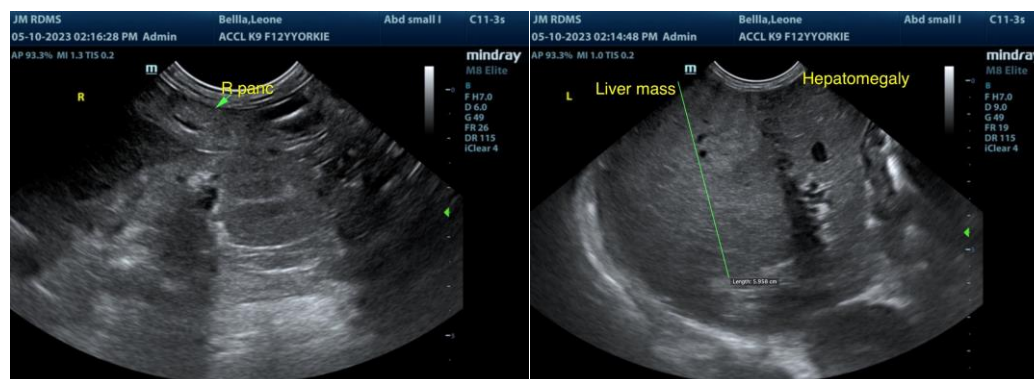
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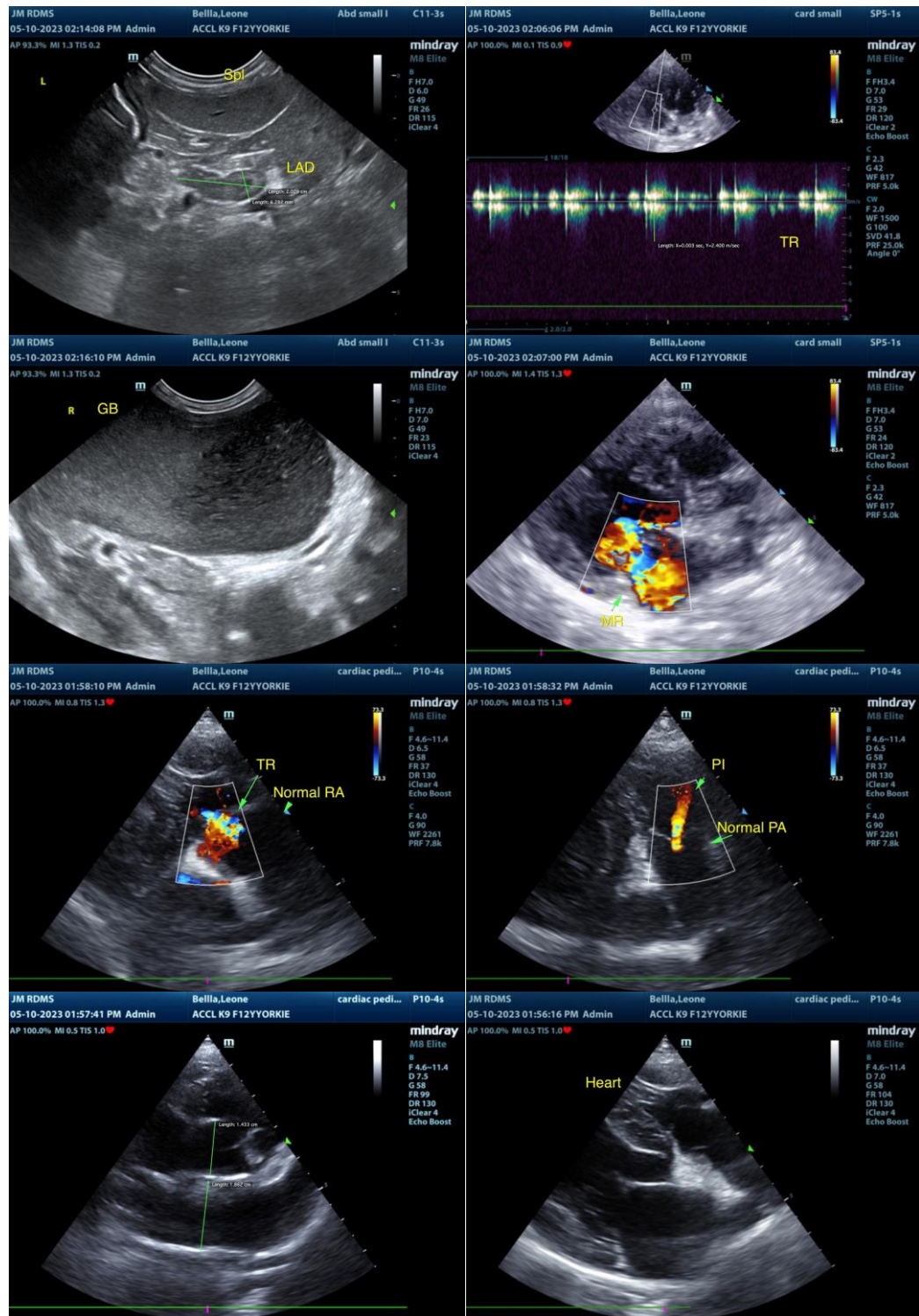
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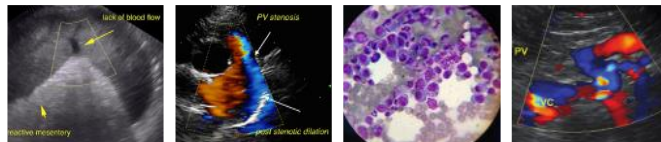
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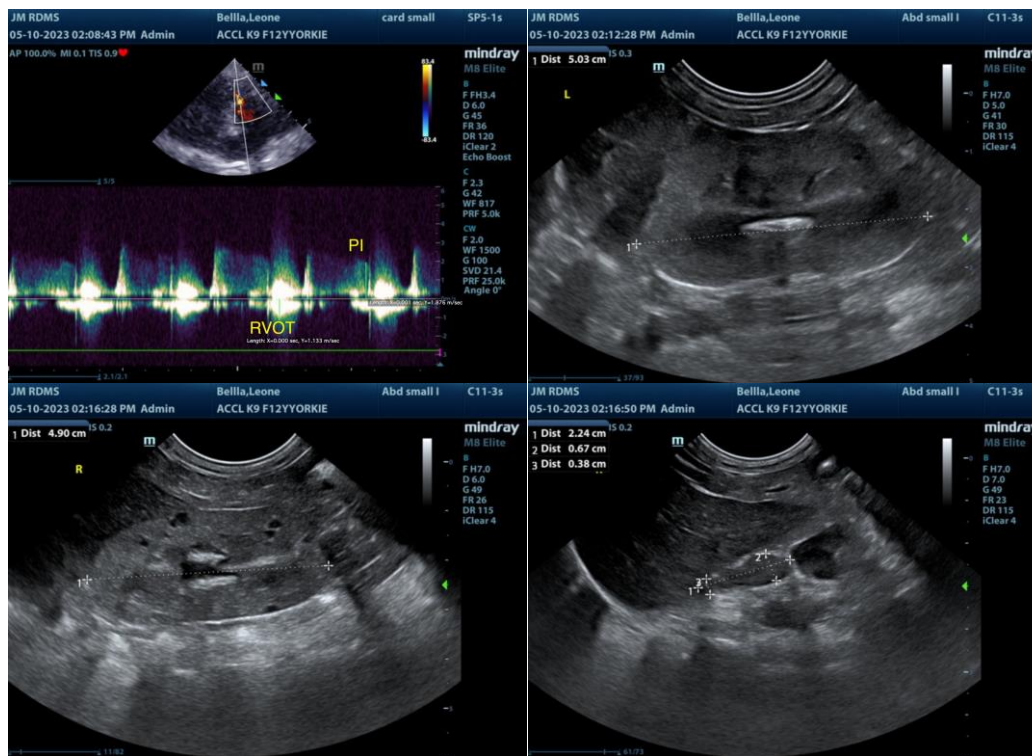
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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