



**PATIENT**

Maxie Rocco

**SPECIES**

Canine

**BREED**

Cockapoo

**SEX**

FS

**AGE**

17.5 years

**WEIGHT**

29 lbs.

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Diane McFadden

**HOSPITAL NAME**

All Creatures G&S  
Denville

**REFERRING VET**

Dr. Ashmore

**INVOICE**

15240

**DATE**

10/25/22

**PRESENTING CLINICAL SIGNS**

large mid abdominal mass. Assess for liver involvement, heart disease as owners may want surgery. not on any meds.

Abnormal PE/Chem/CBC/UA Results: anemia HCT 29%, elevated WBC 19,000; ALKP 269, elevated PSL

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN**

CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
<b>CARDIAC PARAMETERS</b>	<b>VMAX</b> (m/s)	<b>VMAX</b> (m/s)	(Boon method)	(Heart Base; Swe)	(%)	(%)	(cm)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
<b>PATIENT</b>	5.0		1.36	1.31	44	77	0.2
CANINE	HR	AV	PV	BODY WEIGHT	LA	LVIDd	LVIDs
<b>CARDIAC PARAMETERS</b>	(BPM)	<b>VMAX</b> (m/s)	<b>MAX</b> (m/s)	(kg)	2D short axis Base view (cm)	Avg; 2D and m-mode short axis (cm)	Avg; 2D and m-mode short axis (cm)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6				
<b>PATIENT</b>	80	2.0	1.0		3.1	3.1	

**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 mild degenerative thickening consistent with endocardiosis. Doppler indicated measurable mild to 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. Mild aortic insufficiency was present on Doppler. 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. 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 on Doppler. No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of infiltrative or metastatic disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.



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**Urinary System**

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

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The area of the aortic trifurcation was free of pathology.

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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 moderate loss of corticomedullary symmetry and definition expected for the age of the patient. Mild left kidney pyelectasia was present. The left kidney measured 6.3 cm in length. The right kidney measured 6.7 cm in length.

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**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 2.0 cm length x 0.56 cm width at the caudal pole. The right adrenal gland was mildly enlarged exhibiting mild asymmetrical capsule contour and mildly nonhomogeneous hypoechoic parenchyma. No evidence of parenchymal mineralization. The right adrenal gland measured 3.0 cm length x 1.2 cm width at the caudal pole.

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**Spleen**

A large, primarily spherical, mass involving the subjective mid to cranial spleen with secondary capsule expansion and disruption was present and measured at least 14.0 cm in diameter. The parenchyma of the mass was nonhomogeneous to mildly mixed echogenic without 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.

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Diane McFadden

**Liver/ Gallbladder**

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

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**Gastrointestinal**

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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.

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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***

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The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

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***Free Abdomen***

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Small pockets of scant, primarily perisplenic free fluid were present. No overt lymphadenopathy was noted. Overall normal omental echogenicity was present.

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**ULTRASONOGRAPHIC FINDINGS**

- Chronic mitral valve disease (ACVIM B1)
- Aortic insufficiency
- Pulmonic insufficiency
- Non-cavitated splenic mass
- Hepatic parenchymal remodeling - subjectively benign
- Mildly enlarged to irregular right adrenal gland
- Mild chronic renal changes

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The lack of left atrium enlargement indicated that the current and future risk secondary to mitral valve insufficiency is low at this stage. However, prognosis at this stage is highly variable, and serial sonographic monitoring is required. In a nonclinical patient without evidence of significant left atrium enlargement, cardiac medications are not indicated. Recheck echocardiogram is recommended in 6 months, sooner if clinical signs arise.

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The splenic mass is nonspecific with considerations including hyperplasia, hematopoiesis, granuloma, splenitis, or neoplasia (sarcoma, round cell neoplasia, other). Potential for benign splenic mass based on sonographic appearance, although not definitive.

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The mildly enlarged to irregular right adrenal gland is nonspecific with considerations including adenomatous change, and benign hyperplasia, while the possibility of emerging primary or potential metastatic right adrenal neoplasia, i.e., pheochromocytoma, adenocarcinoma, or other, cannot be excluded. Screening blood pressure is suggested to assess for evidence of hypertension, which may allude to an emerging right adrenal pheochromocytoma in light of aortic insufficiency.

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Assuming no evidence of thoracic pathology on three view chest radiographs, splenectomy with gross inspection of the right adrenal gland +/- prophylactic right adrenalectomy vs. sonographic monitoring of the right adrenal gland, assuming normal systemic BP, may be considered.

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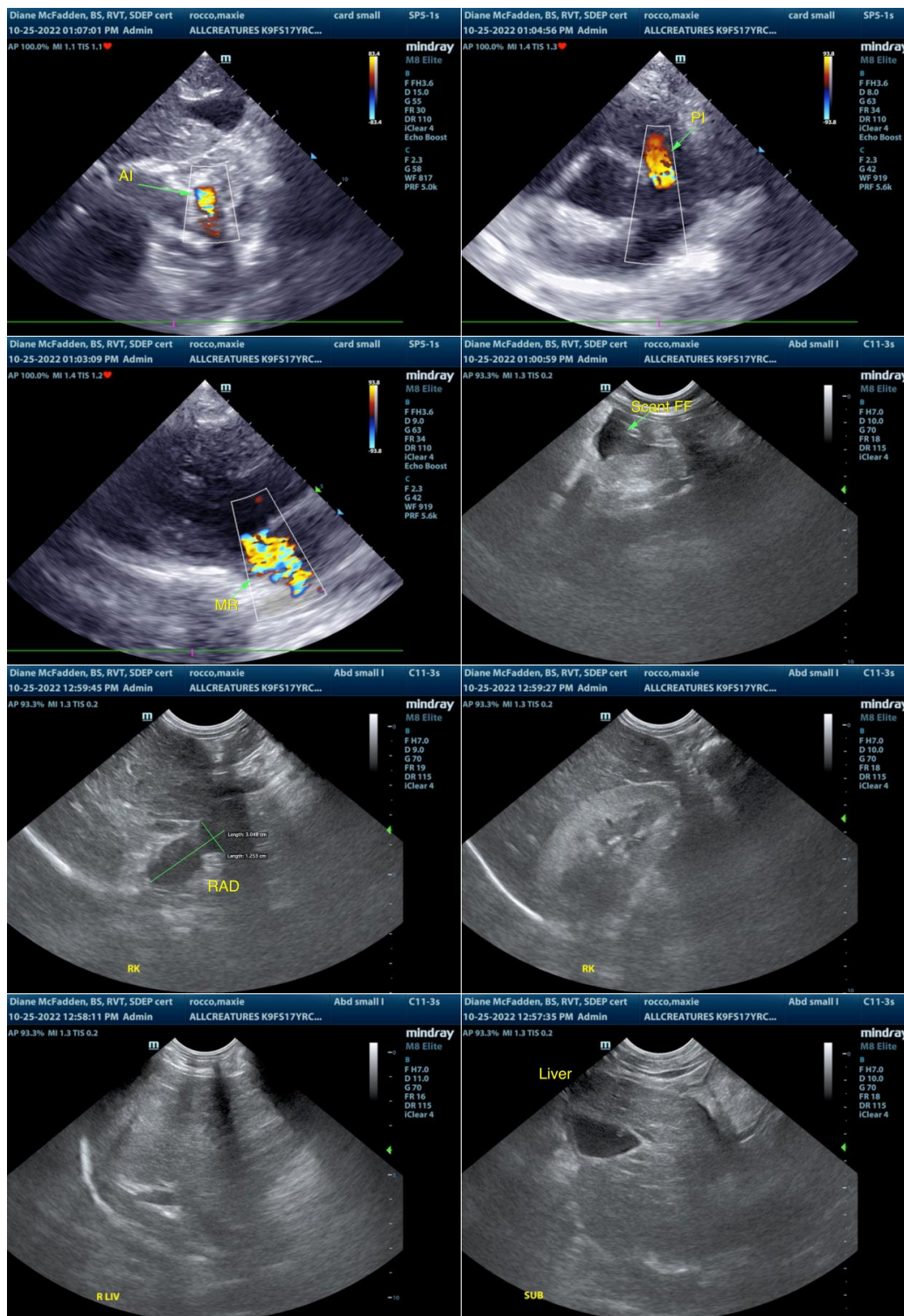
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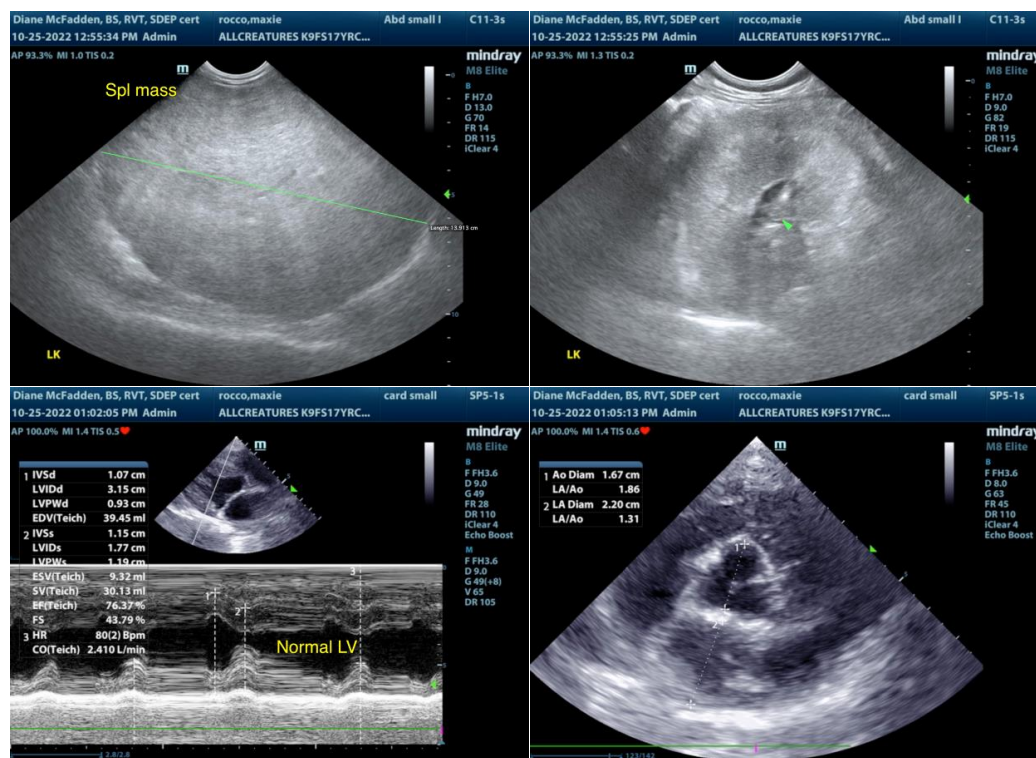
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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