



**PATIENT**

Kiki Bower

**SPECIES**

Canine

**BREED**

Mini Poodle

**SEX**

FS

**AGE**

13.5 years

**WEIGHT**

15 lbs.

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Jessica Miller

**HOSPITAL NAME**

Martinsville VH

**REFERRING VET**

Dr. Shendell

**INVOICE**

16782

**DATE**

5/10/23

**PRESENTING CLINICAL SIGNS**

P presented for cough and lethargy, new murmur (2/6 L-sided, systolic) auscultated.

Current meds: Cerenia 16mg SID, Abnormal PE/Chem/CBC/UA Results: WNL

**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) (m/s)	(Heart Base; Swe) (m/s)	(%)	(%)	(cm)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
<b>PATIENT</b>		2.5		1.37	41	78	0.1
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>	NM	1.5	1.1		2.4	2.2	

**Cardiac Presentation**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 2 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented mild thickening consistent with endocardiosis. No evidence of valvular prolapse. Doppler indicated 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 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). Trace pulmonic insufficiency was present on Doppler. 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.



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***Urinary System***

Kiki Bower

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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No evidence of pathology in the area of the aortic trifurcation.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 4.3 cm in length. The right kidney measured 4.6 cm in length.

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***Adrenal Glands***

13.5 years

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 0.51 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 1.8 cm length x 0.55 cm width at the caudal pole.

**WEIGHT**

15 lbs.

**INTERPRETED BY**

***Spleen***

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

The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Intermittent, primarily small, non-disruptive, hyperechoic nodules were present throughout the cranial to caudal 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 or neoplastic changes were not noted. The hyperechoic nodules tend to trend benign and are most consistent with benign hyperplasia or myelolipomas.

**IMAGING PERFORMED BY**

Jessica Miller

***Liver/ Gallbladder***

**HOSPITAL NAME**

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The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. 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 contained mild echogenic, nonshadowing ingesta sonographically consistent with food without signs of 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.

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



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**Pancreas**

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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 were evident.

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**Free Abdomen**

**BREED**

No overt lymphadenopathy or peritoneal effusion was present.

Mini Poodle

**ULTRASONOGRAPHIC FINDINGS**

**SEX**

- Compensated mitral valve disease (ACVIM B1)

FS

- TR - Estimated pulmonary pressure gradient consistent with mild increased pulmonary pressure yet no overt clinical pulmonary hypertension

**AGE**

13.5 years

- Trace pulmonic insufficiency
- Benign splenic nodules - consistent with benign myelolipomas

**WEIGHT**

15 lbs.

- Sonographically unremarkable gastrointestinal tract with mild gastric ingesta - sonographically consistent with food

**INTERPRETED BY**

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

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The lack of left atrium enlargement indicates that the hemodynamic effects of the MR are low and the current and future risk of complication is likewise low. No indication for cardiac medications at this stage. Conservative monitoring of the murmur is recommended. Given the lack of left or right heart chamber enlargement or evidence of clinical pulmonary hypertension, the coughing in this patient is noncardiogenic in origin. Consideration for primary lower airway disease is indicated. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs arise as prognosis is considered variable.

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There was no sonographic evidence of abdominal visceral pathology as an obvious contributing factor to the patient's clinical signs.

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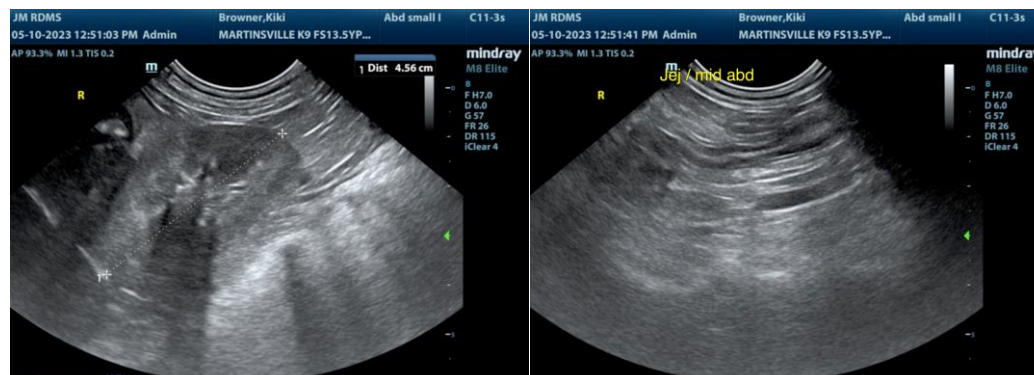
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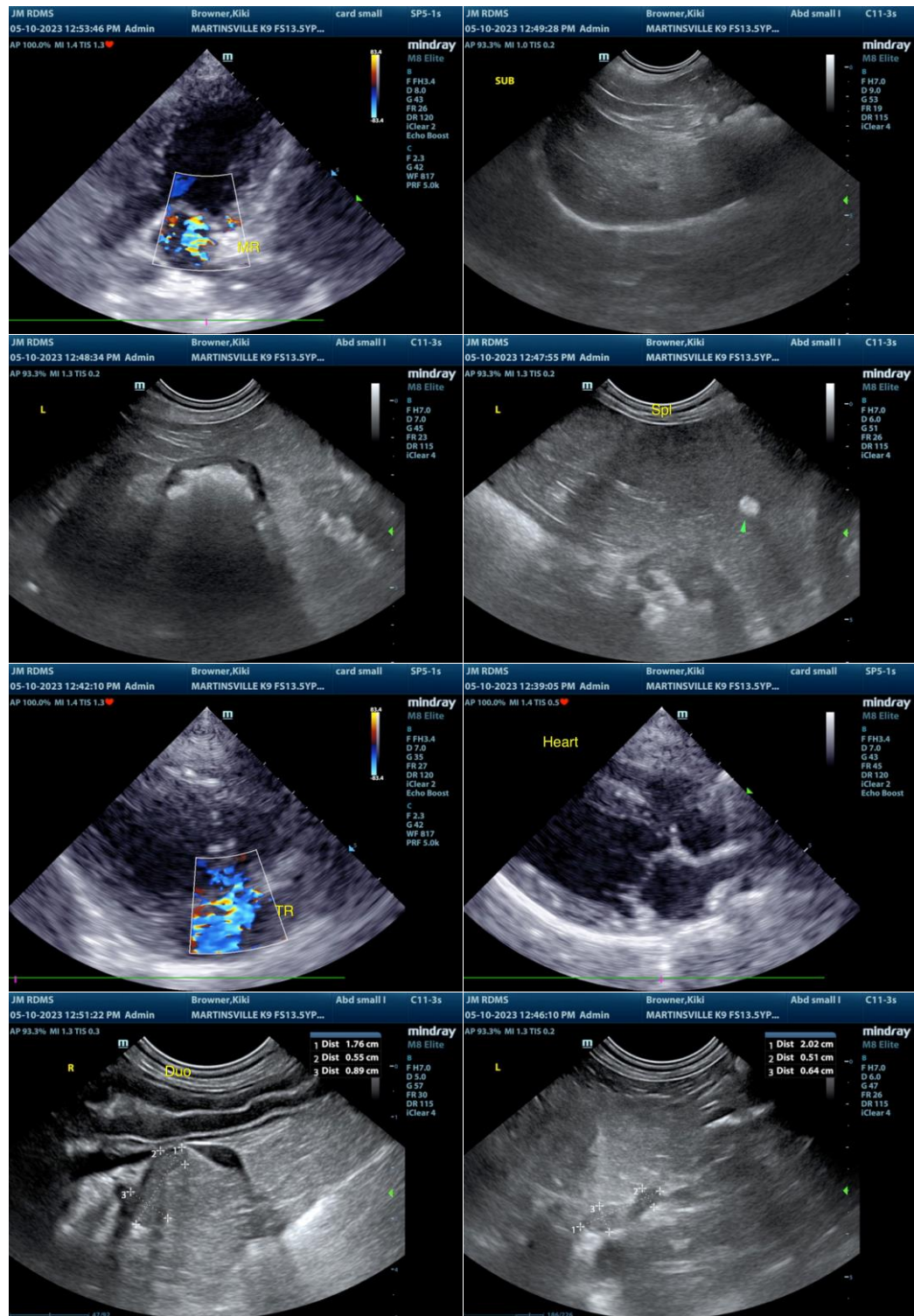
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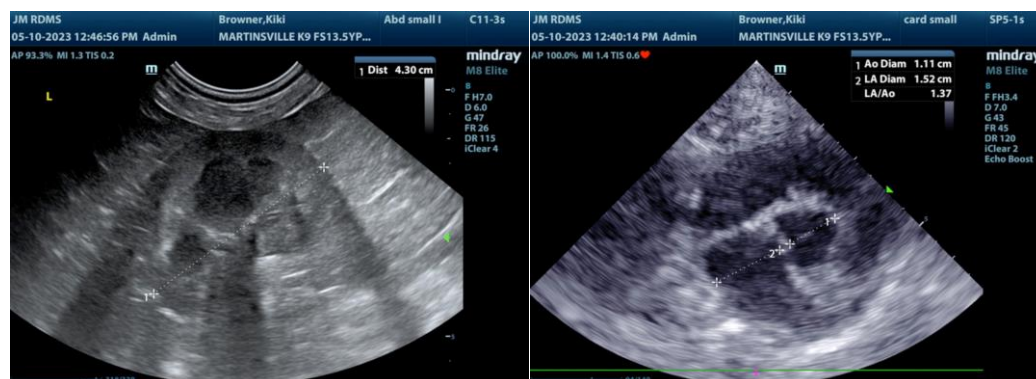
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)**

[mac.daniel@sonopath.com](mailto:mac.daniel@sonopath.com)