



## PATIENT

Jaden Sanders

## SPECIES

Canine

## BREED

Lab Mix

## SEX

FS

## AGE

14 years

## WEIGHT

63 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

16662

## DATE

4/20/23

## PRESENTING CLINICAL SIGNS

wellness check. Recheck adrenals from report 12/6/22. Hx of Cushings  
Abnormal PE/Chem/CBC/UA Results: pending

## 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>			1.4	1.23	38.5	70	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>	89	1.7	1.0		3.75	3.3	

### Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. Minor centralized MR was noted on Doppler. The **left ventricle** presented normal 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. Trace TR was noted on Doppler. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.

### Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 4.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or



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sediment. No evidence of mineral or calculi was noted. 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. No evidence of pelvic dilation was present. The left kidney measured 7.2 cm in length. The right kidney measured 8.0 cm in length.

**SEX**

FS

**Adrenal Glands**

The left adrenal gland was irregularly enlarged in size with an asymmetrical capsule contour and nonhomogeneous parenchyma. No overt evidence of left adrenal mineralization. The left adrenal gland measured 6.0 cm length x 4.0 cm width at the cranial pole and 3.1 cm width at the caudal pole.

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The right adrenal gland was irregularly enlarged with asymmetrical capsule contour and nonhomogeneous parenchyma exhibiting subtle hyperechoic foci to nodules. The right adrenal gland measured 5.2 cm length x 3.6 cm width at the caudal pole.

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**Spleen**

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The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.

**IMAGING PERFORMED BY**

Diane McFadden

**Liver/ Gallbladder**

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The liver was subjectively normal in size with areas of mild capsule asymmetry. Generalized nonhomogeneous variably echogenic parenchyma exhibiting a moderate coarse echotexture and evidence of parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion. Normal hepatic vascular volume was noted. No hepatic masses or nodules were noted. The gallbladder was non-distended in size containing primarily anechoic content with moderate, nonorganized, hyperechoic gallbladder debris without evidence of gallbladder or peripheral gallbladder inflammatory criteria. 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

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.

## Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

## ULTRASONOGRAPHIC FINDINGS

- Structurally / functionally normal heart
- Minor MR / TR
- Chronic hepatopathy with nonuniform remodeled parenchyma
- Mild gallbladder debris (non-mucocele)
- Persistent irregular adrenomegaly with potential emerging right adrenal mineralization
- Static chronic renal changes

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overall, the bilateral adrenal glands appeared to exhibit similar measurements compared to the previous ultrasound with potential for mild progressive left adrenomegaly. However, some measurement variation could be possible. The adrenals may continue to indicate bilateral significant chronic hyperplasia or adenomatous change, while the possibility of bilateral adrenal masses and potential neoplastic criteria, specifically in the right adrenal gland, is possible. If evidence of systemic hypertension, urine catecholamine levels are recommended.

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Correlation with pending lab work is recommended. Sonographic monitoring of the bilateral adrenal glands with initial recheck in 4-6 weeks would be ideal.

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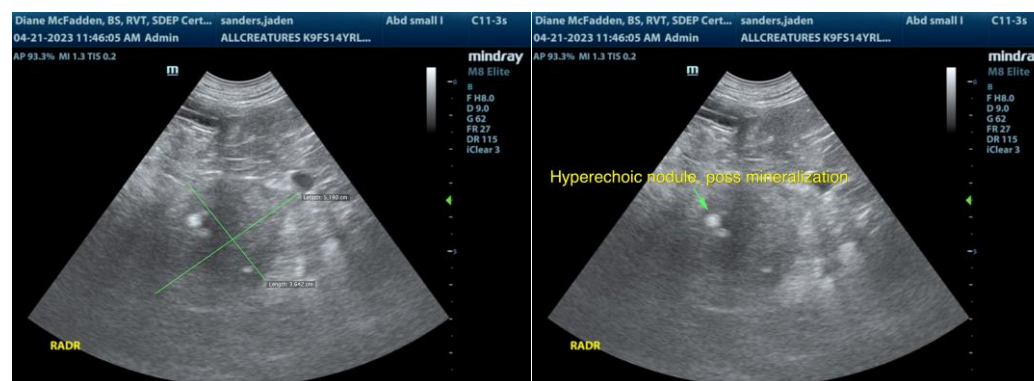
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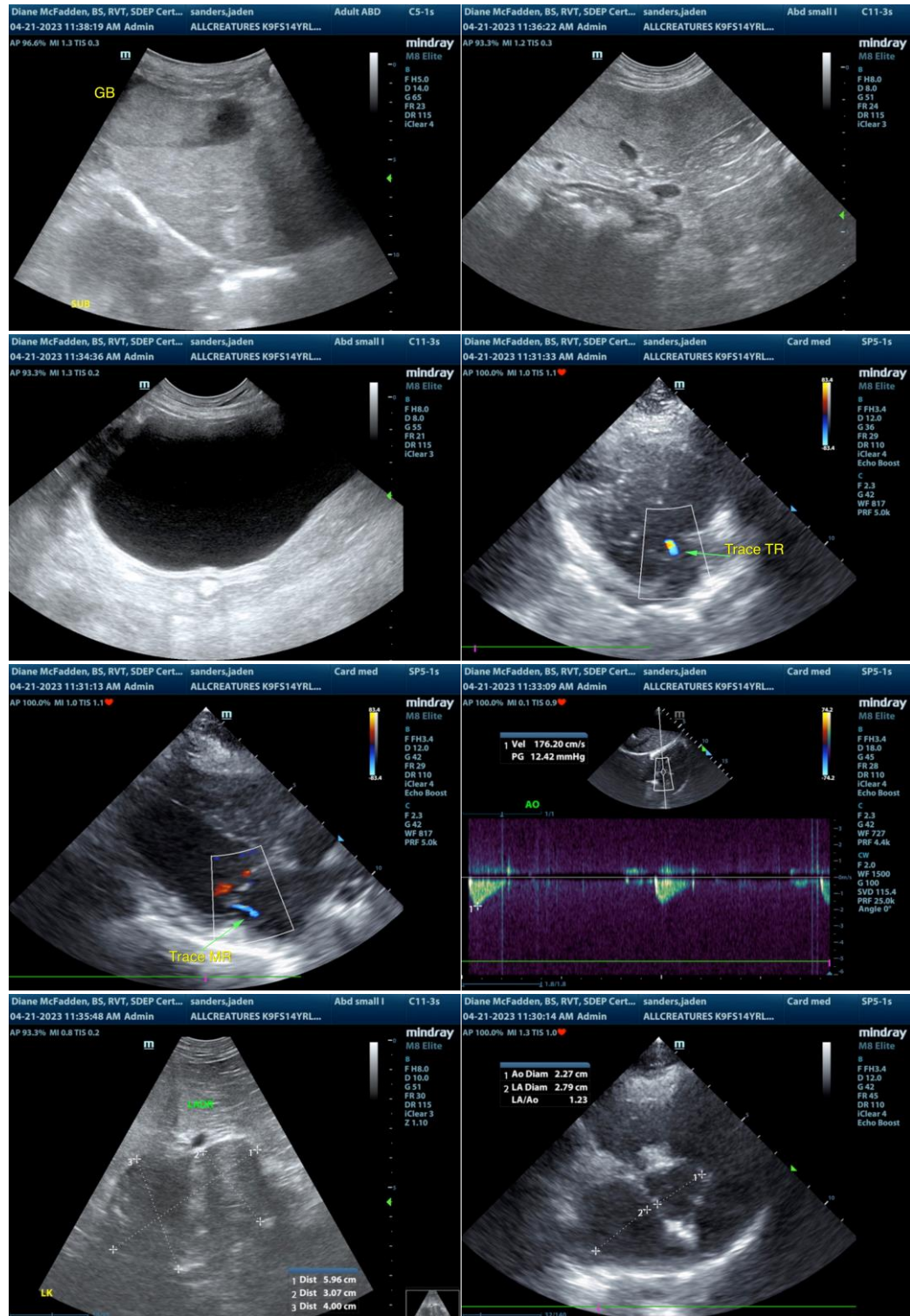
Dr. Ashmore

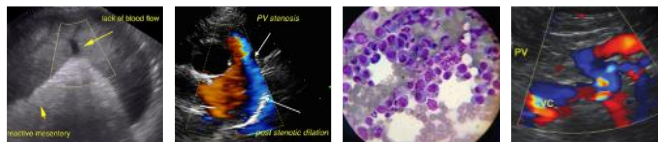
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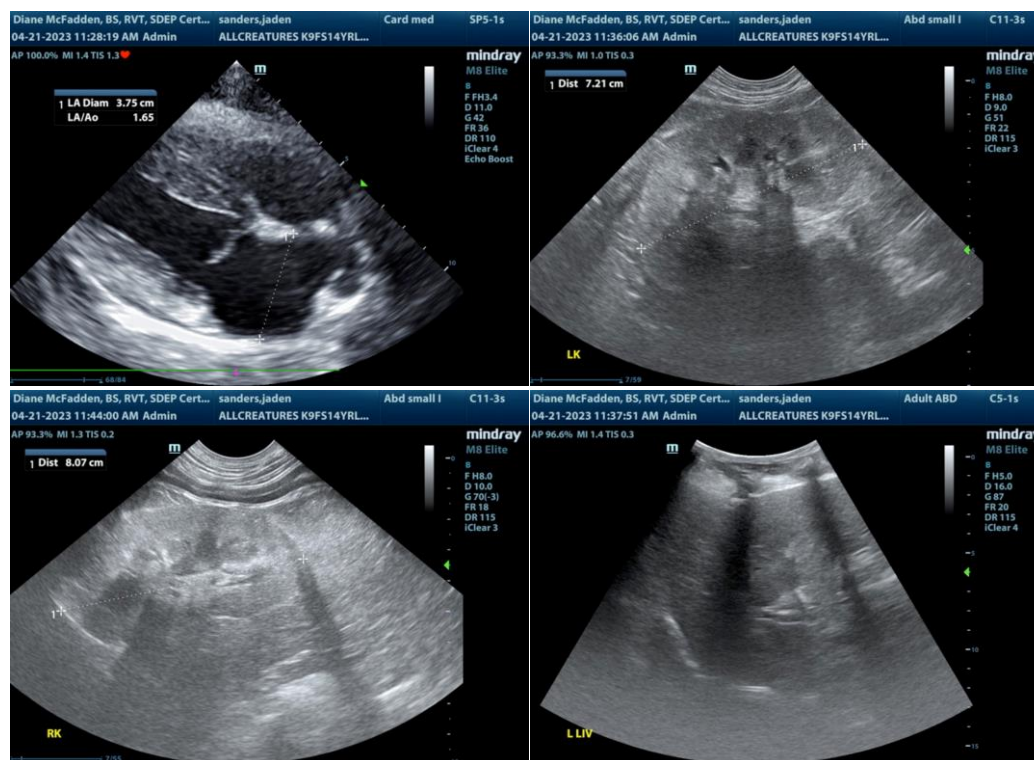
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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