


**PATIENT**

Mickey Burke

**PRESENTING CLINICAL SIGNS**

Collapse at the groomers several days ago and immediately brought to clinic. Dazed and disoriented. Did Chest Rads and BP measurement x 2. Started Amlodipine. Torbugesic IV for sedation today.

**SPECIES**

Canine

Abnormal PE/Chem/CBC/UA Results: RADS: possible mild pleural effusion and dorsally deviated trachea. No heart murmur or cardiomegaly. BW: all WNL BP: -269/112 (176) HR: 151 -196/122 (150) HR: 138 -187/116 (135) HR: 126 Recheck BP: -210/102 (139) HR: 142 -256/109 (158) HR: 123 -243/110 (154) HR: 125

**BREED**

Shih Tzu

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART**
**SEX**

MN

**AGE**

13yr

**WEIGHT**

13.6lb

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				1.2	45.5	81	0.2
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	109	1.5	0.73		2.2	2.2	

**INTERPRETED BY**

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

**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. No overt MR on Doppler. 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. Normal measured LVOT velocity. 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. No overt TR 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). Normal measured RVOT velocity. 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. No overt arrhythmia noted.

**IMAGING PERFORMED BY**

Dr. Ebersole

**HOSPITAL NAME**

Scanvet

**REFERRING VET**

Dr. McGarvey

**INVOICE**

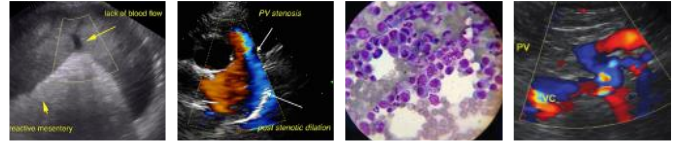
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**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or

**DATE**

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<b>PATIENT</b>	sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.
Mickey Burke	
<b>SPECIES</b>	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. No evidence of pelvic dilation was present. Bilateral pinpoint medullary mineralization was present. The left kidney measured 4.4 cm in length. The right kidney measured 4.4 cm in length
Canine	
<b>BREED</b>	The area of the aortic trifurcation was free of pathology.
Shih Tzu	The area of the residual prostate appeared normal and free of pathology.
	<b>Adrenal Glands</b>
<b>SEX</b>	The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.43 cm width at the caudal pole and 1.9 cm length.
MN	
<b>AGE</b>	A mildly expansive non-homogenous non-mineralized nodule was present in the mid to caudal left adrenal gland with mild associated symmetrical capsule expansion. The nodule did not exhibit signs of parenchymal escape or vascular invasion. The nodule measured 1.5 cm x 1.5 cm. The overall left adrenal gland measured 1.5 cm width at the caudal pole and 2.5 cm length.
13yr	
	<b>Spleen</b>
<b>WEIGHT</b>	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.
13.6lb	
<b>INTERPRETED BY</b>	<b>Liver/Gallbladder</b>
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	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 with mild non-dependent echogenic non-organized debris. No evidence of gallbladder or peripheral gallbladder inflammation was present. The cystic and common bile ducts were normal.
	<b>Gastrointestinal</b>
<b>IMAGING PERFORMED BY</b>	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.
Dr. Ebersole	
<b>HOSPITAL NAME</b>	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.
Scanvet	
<b>REFERRING VET</b>	Normal visible colon wall layers were present with apparent formed feces in lumen.
Dr. McGarvey	
<b>INVOICE</b>	<b>Pancreas</b>
12610ag	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.
<b>DATE</b>	<b>Free Abdomen</b>
01/06/2023	



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No omental masses, overt lymphadenopathy or peritoneal effusion was present.

Mickey Burke

**ULTRASONOGRAPHIC FINDINGS**

**SPECIES**

Canine

- Normal echocardiogram
- Left adrenal nodule-high concern for pheochromocytoma, functional vs non-functional adenoma, benign hyperplasia, lipogranuloma possible
- Mild chronic renal changes
- Mild gallbladder debris (non-mucocele)

**BREED**

Shih Tzu

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**SEX**

MN

Given the patient's history as well as evidence of hypertension left pheochromocytoma is highly suspected until proven otherwise. A urine catecholamine level warranted for further assessment. No evidence of structural or functional cardiomyopathy as a contributing factor. Cushing's syndrome is considered unlikely given normal hepatic presentation and lack of clinical signs i.e. PU/PD, polyphagia etc. Ideally referral for further assessment and consultation for possible left adrenalectomy is indicated.

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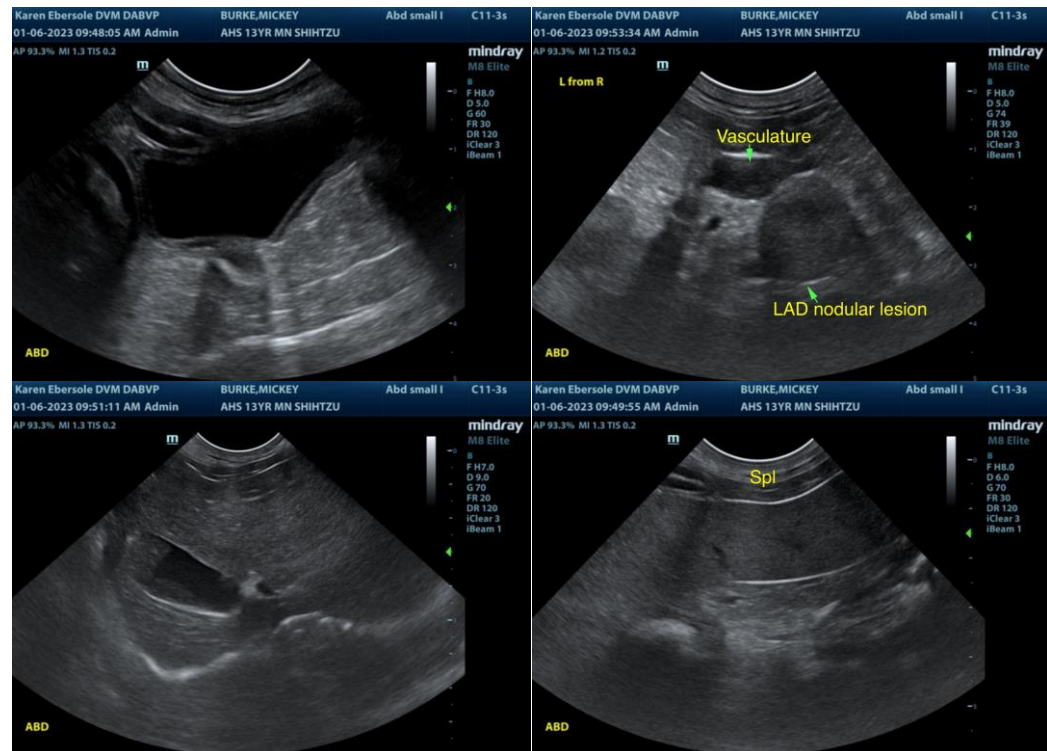
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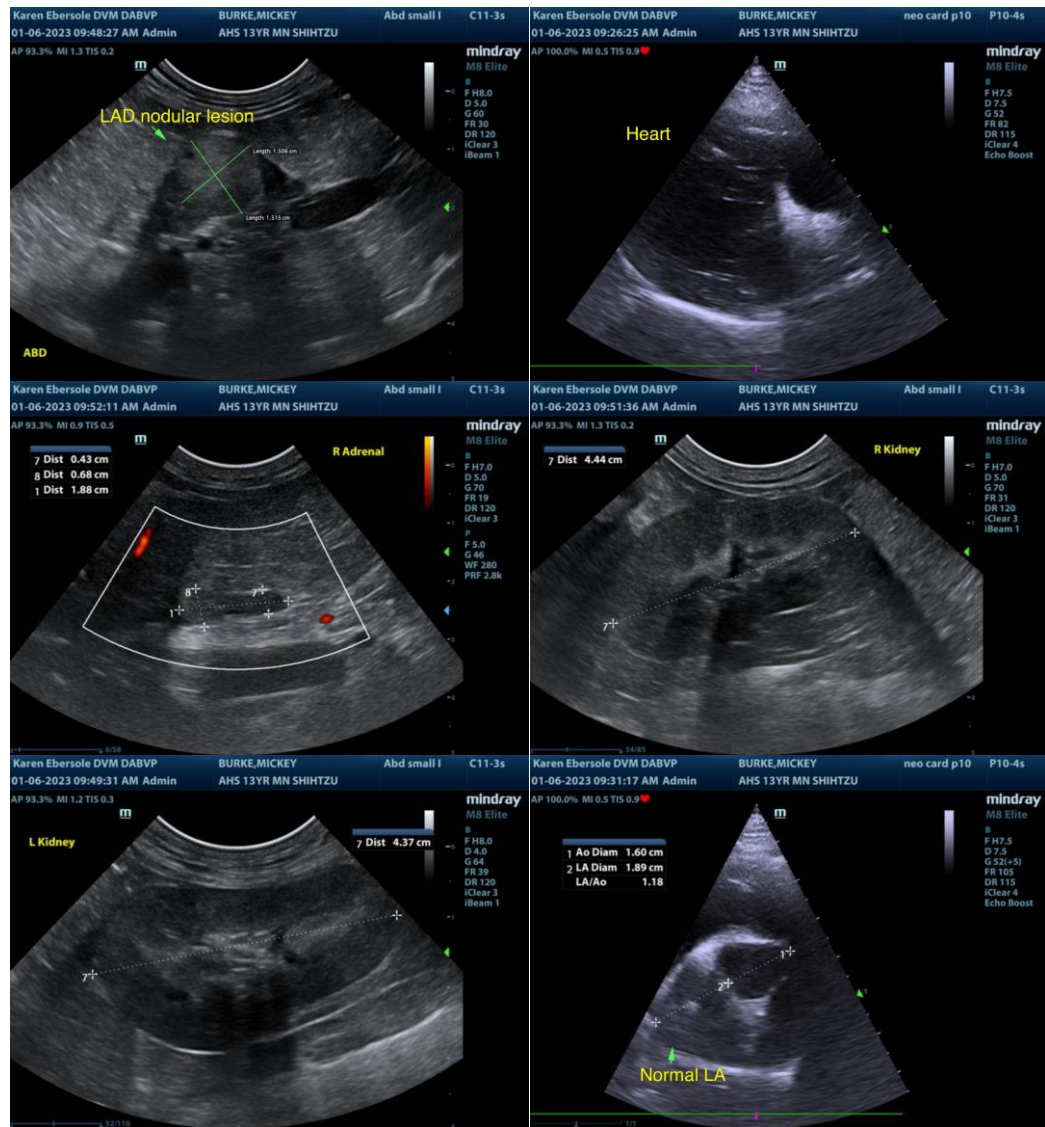
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)