



PATIENT

Toby Colon

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

MN

AGE

9 years

WEIGHT

10.5 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Animal Paradise
Hospital

REFERRING VET

Dr. ElShafie

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DATE

4/20/23

PRESENTING CLINICAL SIGNS

History of urinary stones; radiology report: probable mitral valve and possibly tricuspid valve insuff, hepatomegaly, cystic calculi, suspect urolithiasis.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
CARDIAC PARAMETERS	VMAX (m/s)	VMAX (m/s)	(Boon method)	(Heart Base; Swe)	(%)	(%)	(cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT			1.3	1.3	48	81	0.26
CANINE	HR	AV	PV	BODY WEIGHT	LA	LVIDd	LVIDs
CARDIAC PARAMETERS	(BPM)	VMAX (m/s)	MAX (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)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
PATIENT	132	1.3	0.85		2.0	2.0	

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 or significant mR was noted 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. 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 or significant 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.



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Urinary System

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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra exhibited normal tone. Mild nonuniform thickening of the urinary bladder wall was present. Primarily anechoic urine was present with a hyperechoic cystic calculus exhibiting distal acoustic shadowing present in the dependent lumen. The calculus measured 0.9 cm diameter. Overtly normal urinary bladder walls were noted. No urinary bladder tumors were observed. Urinary bladder wall measured 0.36 cm width.

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The residual prostate was normal in size and contour with subtle nonhomogeneous pinpoint mineralized residual prostate parenchyma. The residual prostate measured 0.77 cm in diameter.

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The area of the aortic trifurcation was free of pathology.

MN

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 or pyelectasia. Mild nonobstructive medullary mineral was noted primarily in the lateral diverticuli. The left kidney measured 3.6 cm in length. The right kidney measured 3.5 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 0.44 cm width at the caudal pole and 0.48 cm width at the cranial pole. The are of the right adrenal gland was free of overt pathology.

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Spleen

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.

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Liver/ Gallbladder

The liver was subjectively mildly enlarged in size with normal 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. Normal vascular volume was noted. 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

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 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

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No overt lymphadenopathy or peritoneal effusion was present.

Yorkshire Terrier

ULTRASONOGRAPHIC FINDINGS

SEX

- Normal echocardiogram

MN

- Cystic calculus

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- Normal residual prostate size exhibiting nonspecific nonhomogeneous pinpoint mineralized parenchyma

WEIGHT

10.5 lbs.

- Bilateral mild renal medullary mineral

- Mild hepatomegaly exhibiting normal hepatic vascular volume, sonographically unremarkable gallbladder

INTERPRETED BY

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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

If not done, a full urinary workup including screening C/S, as well as assessment of hepatic enzymes is recommended.

The hepatomegaly appears to be benign without evidence of intrahepatic or extrahepatic macroscopic shunt. Correlation with bile acids may be considered if clinically applicable.

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There are no overt anesthetic contraindications, if cystotomy is elected, assuming evidence of normal hepatic function, i.e., normal albumin, glucose, BUN, and cholesterol levels.

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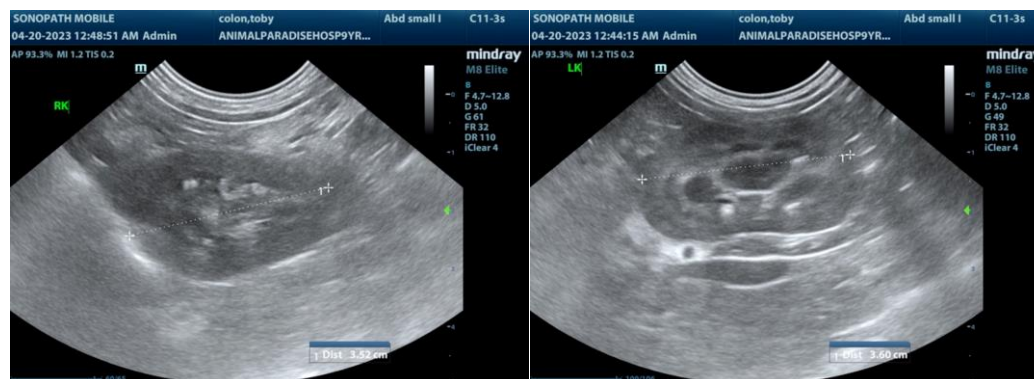
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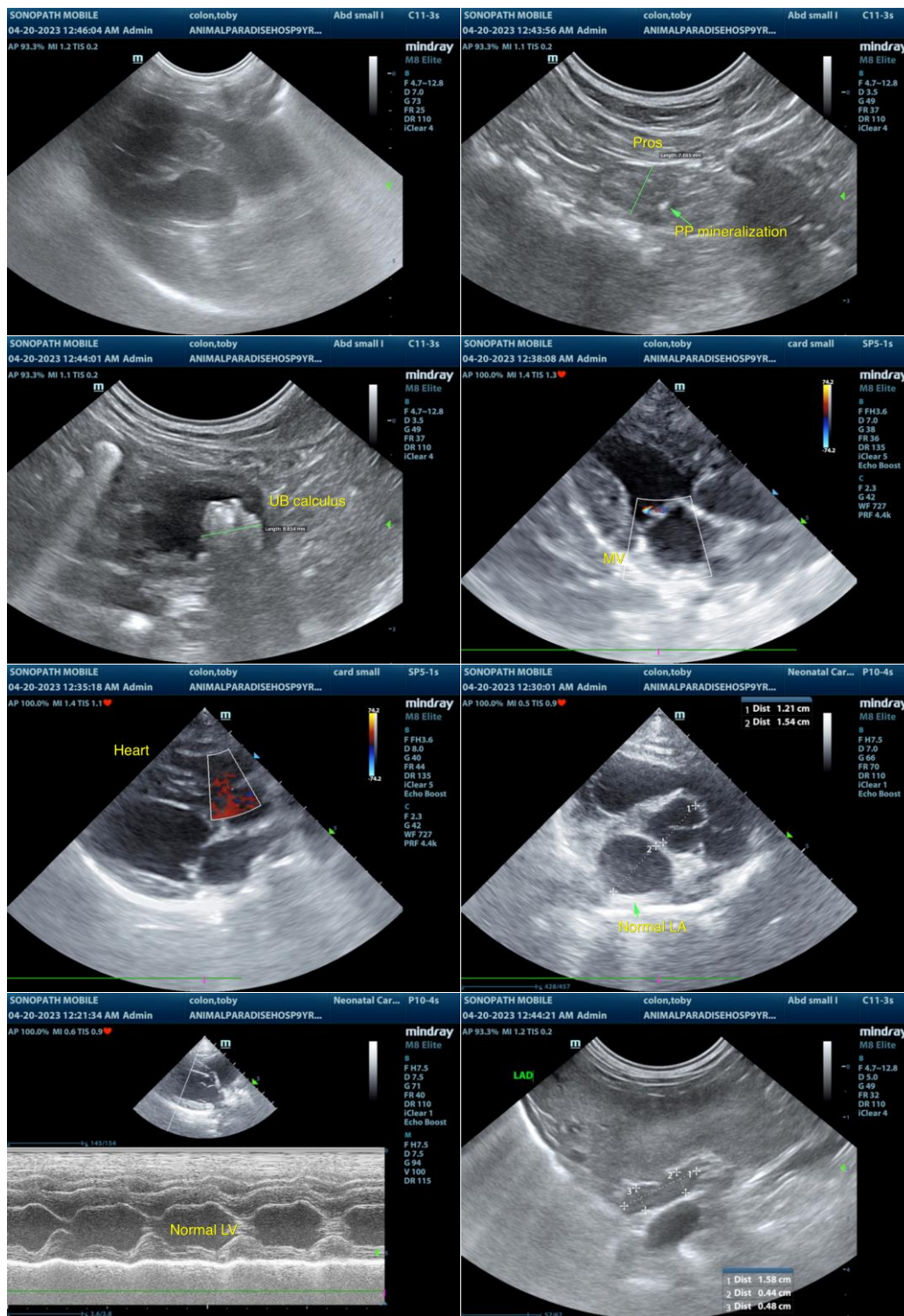
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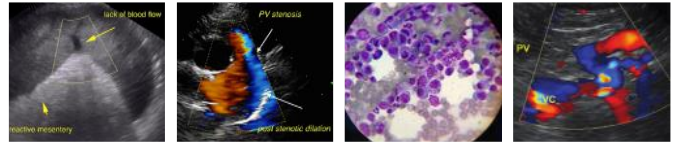
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.



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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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