


PATIENT

Pops Rodriguez

PRESENTING CLINICAL SIGNS

Patient presents for history of recent episode of collapse with cyanosis, stabilized with O2 support and supportive care. Concern for possible free fluid in the abdomen. All bloods WNL.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART
BREED

Pitbull Mix

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		3.0	1.35	1.1	37	68	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	115	1.1	0.7		3.7	3.4	

SEX

M

AGE

11yr

WEIGHT

59lb

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 mild alinear contour and was not dilated nor restricted. The myocardium presented normal echogenicity with minor LV myocardial remodeling and no 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 increased size with normal structure and content. No evidence of masses was noted. Tricuspid valvular assessment demonstrated mild thickening with normal kinesis. Mild TR on Doppler. The right ventricle was of mild increased size compared to the LV with normal myocardial echogenicity and free wall 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 pleural fluid was noted. The cranial mediastinum and pericardial and extra-cardiac regions were free of masses in the visible window. No evidence of arrhythmia.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra 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 were noted.

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 mild loss of corticomdullary symmetry and definition expected for the age of the patient. No evidence

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

 Westwood Regional
 Vet Hospital

REFERRING VET

Dr. McConnell

INVOICE

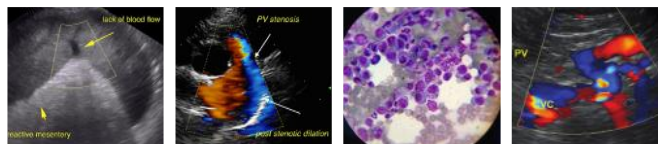
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PATIENT	of pelvic dilation was present. The left kidney measured 6.7 cm in length. The right kidney measured 6.2 cm in length.
Pops Rodriguez	The area of the aortic trifurcation was free of pathology.
SPECIES	The prostate was mildly enlarged exhibiting non-homogenous discretely cystic parenchyma. No evidence of prostate parenchyma mineralization. The prostate measured 4.9 cm x 2.9 cm.
Canine	The bilateral testicles were overtly normal for age.
BREED	Adrenal Glands
Pitbull Mix	The left adrenal gland was mildly prominent to irregular measuring 1.1 cm width at the caudal pole and 3.0 cm length.
SEX	The right adrenal gland was normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present in the right adrenal gland without suspicion for overt neoplasia. The right adrenal gland measured 2.0 cm length and 0.77 cm width in the caudal pole.
MI	
AGE	Spleen
11yr	The spleen exhibited normal size and areas of capsule asymmetry with generalized parenchyma heterogeneity. A mildly expansive cranial splenic nodule was present measuring 1.9 cm in diameter. Potential for additional discrete nodules possible. No splenic masses noted. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis.
WEIGHT	Liver/Gallbladder
59lb	The liver presented mildly enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature was without signs of congestion. Normal cranial abdominal caudal vena cava was present. Discretely prominent yet indistinct portal vascular border were present. No hepatic masses present. The gallbladder was non-distended in size with mildly hyperechoic walls and mild non-organized hyperechoic debris. The cystic and common bile ducts were normal.
INTERPRETED BY	Gastrointestinal
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	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.
IMAGING PERFORMED BY	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.
Kelly Vazquez	Normal visible colon wall layers were present with apparent formed feces in lumen.
HOSPITAL NAME	Pancreas
Westwood Regional Vet Hospital	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.
REFERRING VET	Free Abdomen
Dr. McConnell	No omental masses or ascites was present. Several mildly prominent irregular to hypoechoic hepatic lymph nodes adjacent to the portal vein were present, an example measured 1.9 cm in diameter.
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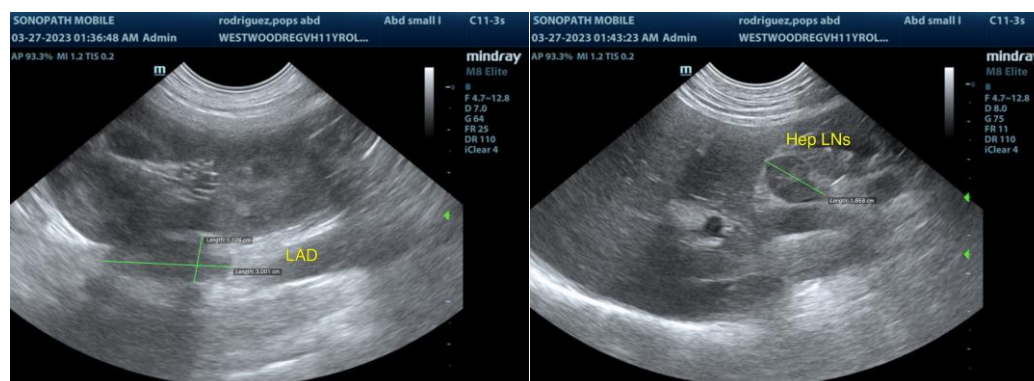
ULTRASONOGRAPHIC FINDINGS

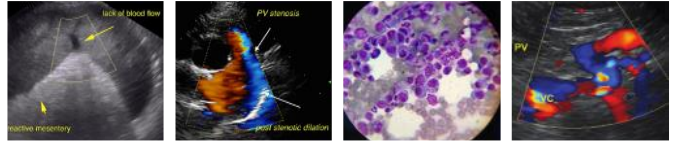
- Normal LA/LV.
- Mildly prominent RA/RV.
- TR-estimated pulmonary pressure gradient ~ 36 mmHg, consistent with mild clinical pulmonary hypertension.
- Mild hepatomegaly exhibiting parenchymal remodeling, overtly normal vascular volume.
- Gallbladder debris (non-mucocele).
- Mild non-specific hepatic lymphadenopathy.
- Prominent non-homogenous left adrenal gland.
- Mild chronic renal changes.
- Non-specific splenic nodule-hyperplasia, hematopoiesis, granuloma, small hematoma or potential for emerging neoplastic criteria possible.
- Benign prostatic hyperplasia with minor cystic parenchyma, potential for prostatitis.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The pulmonary pressure gradient and mildly prominent RA/RV are suggestive of mild pulmonary hypertension which is of unclear clinical significance given lack of evidence of right heart failure. Initial exercise restriction +/- exercise/excitement challenge could be considered to assess if the collapsing/cyanotic episode occurs with stress/exercise. ECG or Holter monitor may be indicated if recurrent episode of collapse. The estimated mild pulmonary hypertension does not overtly suggest medical therapy, yet further monitoring is advised.

A screening BP is advised to assess for evidence of hypertension as a contributing factor or indication of possible emerging left adrenal neoplastic criteria i.e., pheochromocytoma. Sonographic monitoring of the splenic nodule for evidence of progression +/- ultrasound FNA assuming normal clotting status is recommended.





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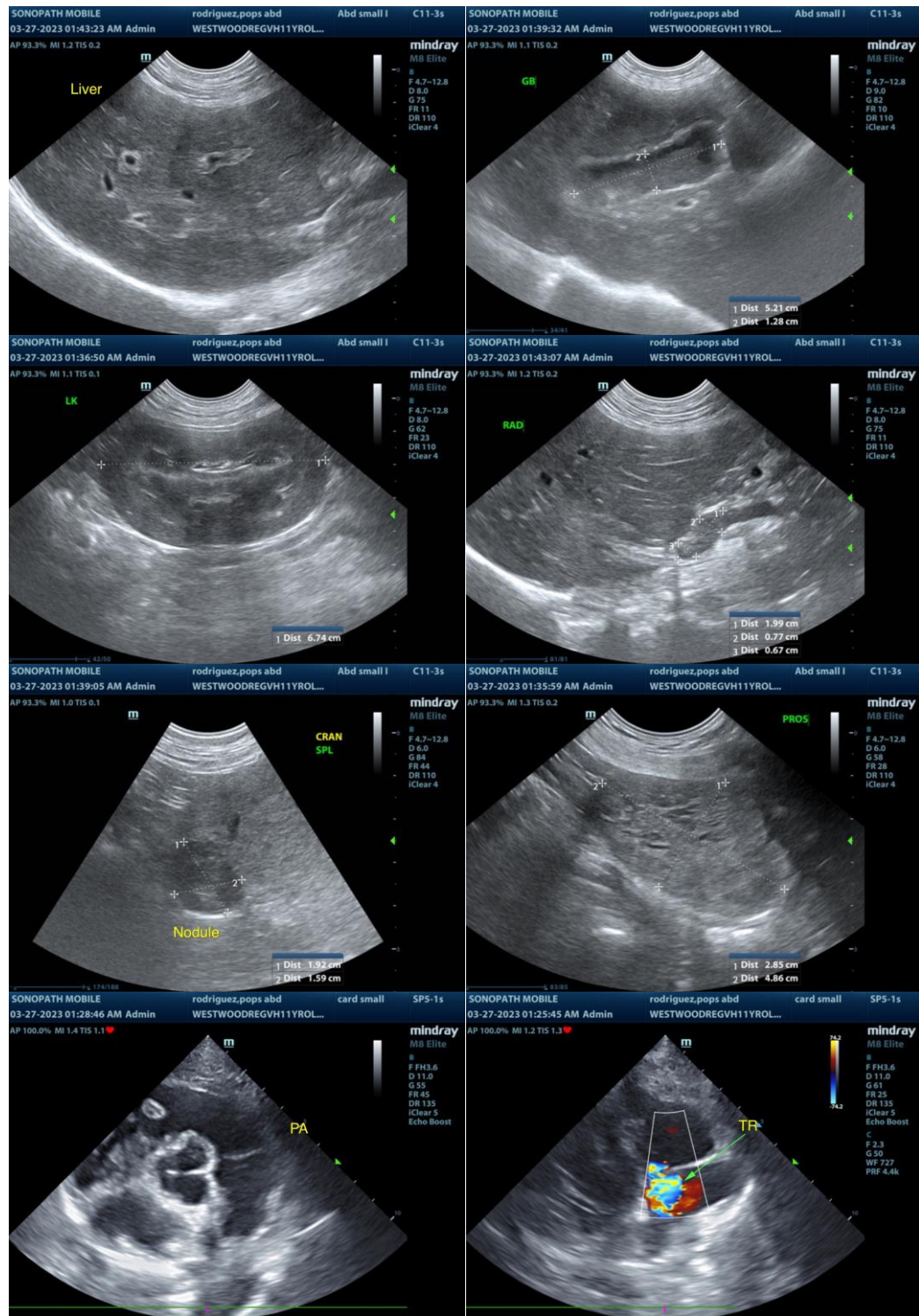
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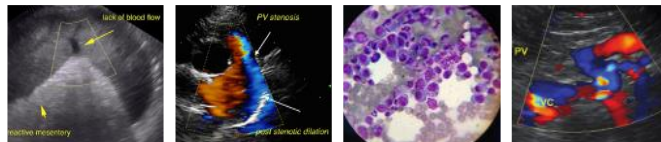
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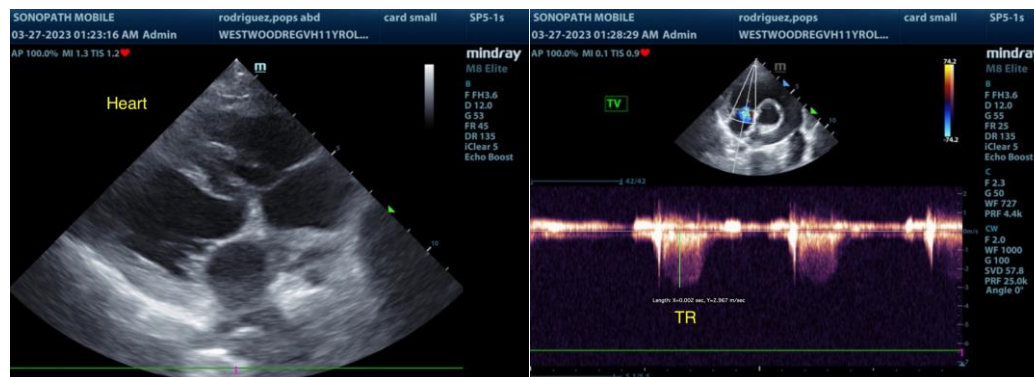
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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mac.daniel@sonopath.com