



PATIENT PRESENTING CLINICAL SIGNS

Scotch Rodriguez Patient presents for bloated abdomen, heart murmur. Current meds: latanoprost and dorzolamide (for glaucoma).
SPECIES Abnormal PE/Chem/CBC/UA Results: RBC 6.14, HCT 36.3, HGB 12.5, MCV 59.1, MCH 20.4, Reticulocyte hemoglobin 21.3, PLTs 510, Plateletcrit 0.62, ALT 199, ALP 938, GGT 58.

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

BREED

Beagle

SEX

Neutered Male

AGE

14 Years

WEIGHT

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	<1.6	28-40	40-100	<0.6
PATIENT			1.1	1.2	30	59	0.1
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	BELOW	BELOW	BELOW	BELOW
PATIENT	112	1.8	1.24		2.7	2.76	

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

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REFERRING VET

Dr. Goldman

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Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable 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. **Aortic** insufficiency noted at 6.0 m/sec. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. 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). 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.

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal. The residual prostate was uniform at 0.86 cm.



PATIENT

Scotch Rodriguez

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 5.07 cm. The left kidney measured 5.0 cm.

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Adrenal Glands

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Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 2.08 cm x 0.53 cm at the caudal pole and 0.63 cm at the cranial pole. The left adrenal gland measured 1.5 cm x 0.54 cm at the caudal pole and 0.42 cm at the cranial pole.

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Spleen

The **spleen** revealed a focal hypoechoic nodule at 0.56 cm, non-disruptive.

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Liver

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Hypoechoic nodules noted up to 1.6 cm. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. Minor gallbladder debris and polyps noted.

WEIGHT

Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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Pancreas

Diffuse hyperechoic changes were present in the area of the **pancreas**. The pancreatic remodeling was evident with multifocal to diffuse hyperechoic changes. These changes are consistent with fibrosis, amyloid, saponification of fat and may contain areas of low-grade chronic active inflammation especially if pain on imaging (+ Murphy sign) was present +/- focal subxyphoid palpation reveals pain response. No overt masses were noted. An anechoic cyst was noted at the right base, appears to be benign. No evidence of inflammation noted. The cyst measured 1.5 cm.

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ULTRASONOGRAPHIC FINDINGS

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- Stage B1 valvular disease with mild aortic insufficiency, no evident of clinical cardiac disease at this time
- Nodular hyperplasia liver pattern
- Gallbladder polyps, benign
- Splenic nodule
- Pancreatic remodeling with mild cyst

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflo maintenance or similar protocol if anesthesia is desired. Blood pressure recommended if not already performed and target



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white coat negative systolic pressure of < 160 mmHg. If higher than this ACE-inhibitor is suggested to reach this level. Recheck echocardiogram is recommended in 6 months, earlier if murmur grade increases or clinical signs initiate.

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FNA of the liver could be considered for further definition. However, subjectively it appears benign. No evidence of significant disease. The cause of bloating is not evident, except for the mild hepatomegaly. Supportive care should prove effective.

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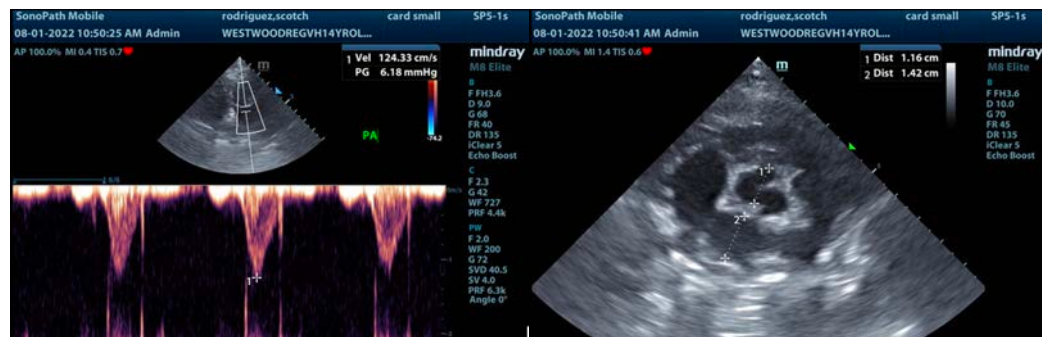
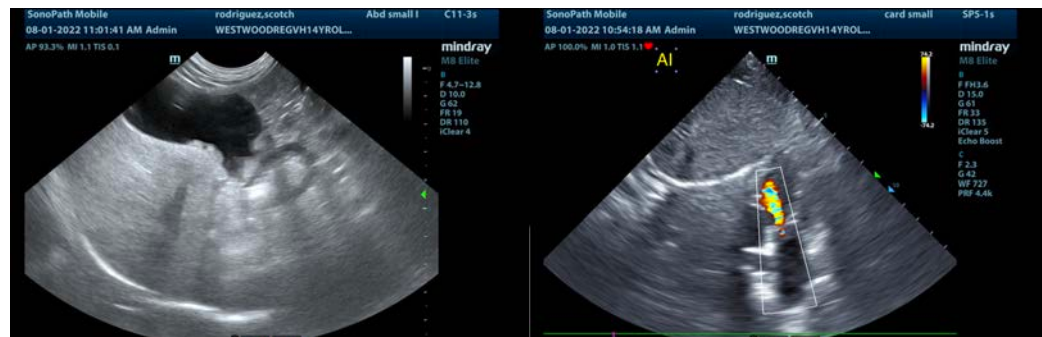
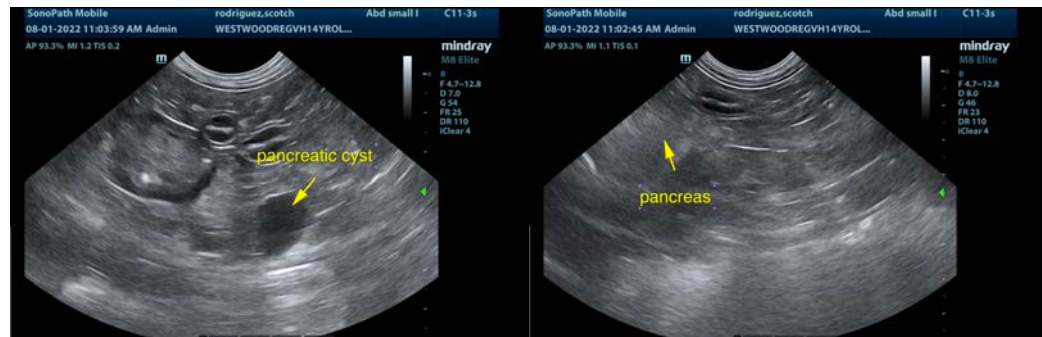
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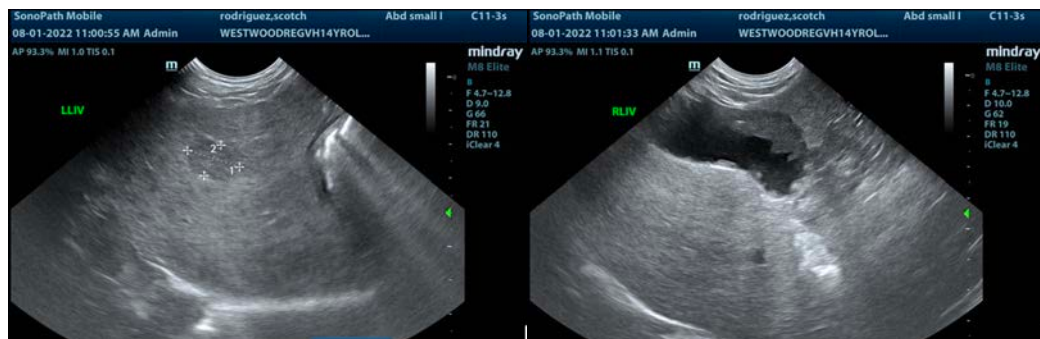
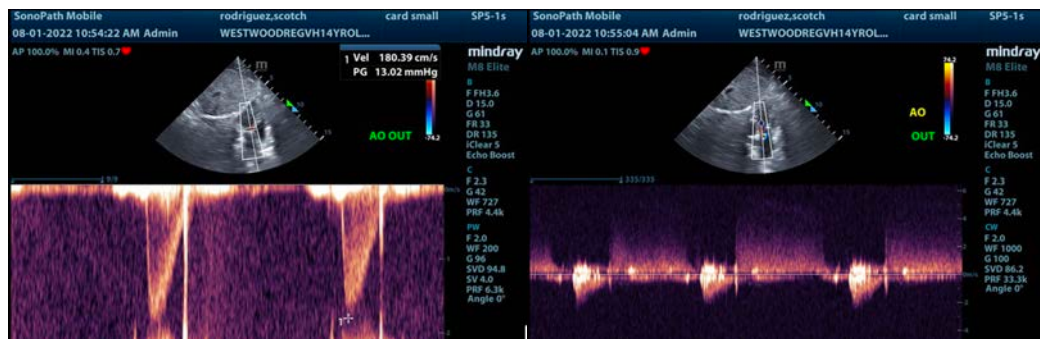
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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