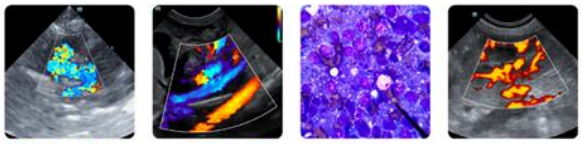


PATIENT
Rocco Penner

SPECIES
Canine

BREED
Mini Schnauzer

SEX
MN

AGE
8yr

WEIGHT
5.6kg

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

IMAGING PERFORMED BY
Dr Gira

HOSPITAL NAME
Glamorgan AC

REFERRING VET
Dr. Kevin MacAulay

INVOICE
24928

DATE
05/22/2026

PRESENTING CLINICAL SIGNS

Had POCUS at emergency clinic, noted slightly enlarged left atrium and mild liver enlargement with hypoechoic lesions, and thickening/abnormal structures at the cranial neck of the bladder.

Abnormal PE/Chem/CBC/UA Results: No recent BW

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART

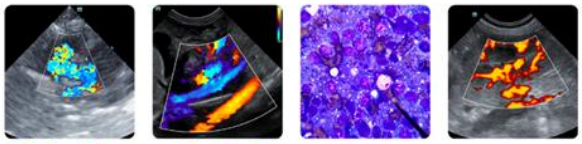
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO M-mode	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	6.0	3.6	--	1.6	45	78	0.3
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT**	**LAD** LA MAX 4 Chamber	**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	NM	1.0	2.8	5.6kg	2.8	2.5	--

Cardiac Presentation

The echocardiogram in this patient demonstrated borderline increased left atrial size based on 2 different LA measurement methods. The cranial and caudal mitral valve leaflets presented thickening consistent with endocardiosis. Mild valvular prolapse. Doppler indicated moderate to significant eccentric 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. The left ventricular outflow tract demonstrated normal laminar flow and subjective structural integrity. Mild aortic valve insufficiency on Doppler. The right atrium and auricle revealed mild increased right atrial dimension No evidence of masses was noted or chamber overload. Tricuspid valvular assessment demonstrated moderate tricuspid insufficiency on Doppler with increased measured regurgitation velocity 3.6 m/s (estimated ~ 50 mmHg) The right ventricle was of mild increased dimension. Pulmonic tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Minor pulmonic valve insufficiency on Doppler. No visible pericardial or free pleura fluid was noted. No echographically detectable evidence of cardiac / pericardial tumors was visible. No evidence of arrythmia.

Urinary System

The urinary bladder was normal in size and tone. Regional mildly thickened hypoechoic apical, dorsal and ventral cystourethral junction urinary bladder wall with evidence of pinpoint to focal cystourethral junction mural mineralization. Anechoic urine was present in the lumen with no evidence of



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urine/lumen sediment, mineral, or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. Thickened areas of urinary bladder wall measured 0.3 - 0.5 cm in width.

Normal renal size with asymmetrical margination was present in both kidneys. The renal cortex presented uniformly increased in echogenicity with uniform echotexture. The renal cortex appeared to be hypertrophied resulting in an altered cortex: medulla ratio. Mild loss of corticomedullary distinction was also present. The renal medullary volume was subjectively reduced. Cortical cysts were present. The left kidney measured 4.3 cm in length. The right kidney measured 4.8 cm in length.

The area of the aortic trifurcation was free of pathology.

The area of the residual prostate appeared normal and free of obvious pathology

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.5 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.64 cm width at the caudal pole.

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.

Liver/Gallbladder

The liver presented mild to moderately enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was mildly non-homogenous with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. Normal vascular volume. The hepatic and portal vasculature were normal in appearance without signs of congestion.

The gallbladder was non-distended in size with non-organized, primarily peripheral lumen, non-mineralized gallbladder debris. The common bile duct exhibited generalized mild to moderate distention containing subjective anechoic bile to the approximate level of the duodenal papilla.

Gastrointestinal

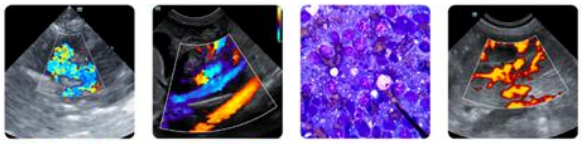
The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained mild retained gastric fluid with no signs of ileus, obstruction or foreign material.

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 mechanical/metabolic ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

The pancreas was prominent in size with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.



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Free Abdomen

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

ULTRASONOGRAPHIC FINDINGS

Primary

- Chronic mitral valve disease with mild valve prolapse (ACVIM early/mild B2) Pulmonary hypertension with thickened tricuspid valve, valvular dysplasia and RA/RV enlargement
- Minor to mild aortic /pulmonic valve insufficiency
- Regionally thickened apical, dorsal and ventral cystourethral junction urinary bladder wall with suspect pinpoint to focal cystourethral junction mural mineralization
- Enlarged mildly non-homogenous liver
- Non-organized gallbladder debris with generalized common bile duct dilation to the level of duodenum
- Prominent non-homogenous pancreas
- Chronic renal changes exhibiting cortical cysts

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Correlation with clinical signs for evidence of clinical pulmonary hypertension is recommended. The degree of LA enlargement indicates the current and future risk of complication secondary to MR at this stage is mildly elevated, yet overall, the left heart appears compensated. Borderline indication for the use of Pimobendan at this stage. Sildenafil 1 to 3 mg/kg BID indicated given mild to moderate pulmonary hypertension and if clinical signs consistent with pulmonary hypertension are present. Assessment of systemic BP for evidence of hypertension given aortic valve insufficiency is recommended. Elective anesthesia is not currently advised pending further cardiac assessment.

Assessment of hepatic enzymes for evidence of hepatic cholestasis or inflammation indicated. Definitive evidence of post-hepatic obstruction was not obvious. Hepatic supportive medications and Empirical therapy for potential hepatic inflammation may be indicated.

Chronic pancreatitis may be suspected if cranial abdomen /subxiphoid discomfort on palpation and concurrent gastrointestinal signs.

The thickened areas of urinary bladder wall are non-specific and may indicate inflammation, edema, granulomas or emerging neoplasia. Correlation with urinary workup including C/S and screening BRAF assay is recommended.

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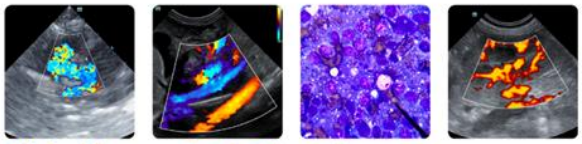

Clinical Sonography & Telecytology
Educational Teleconsultation Services™

SonoPath.com info@sonopath.com 1.800.838.4268

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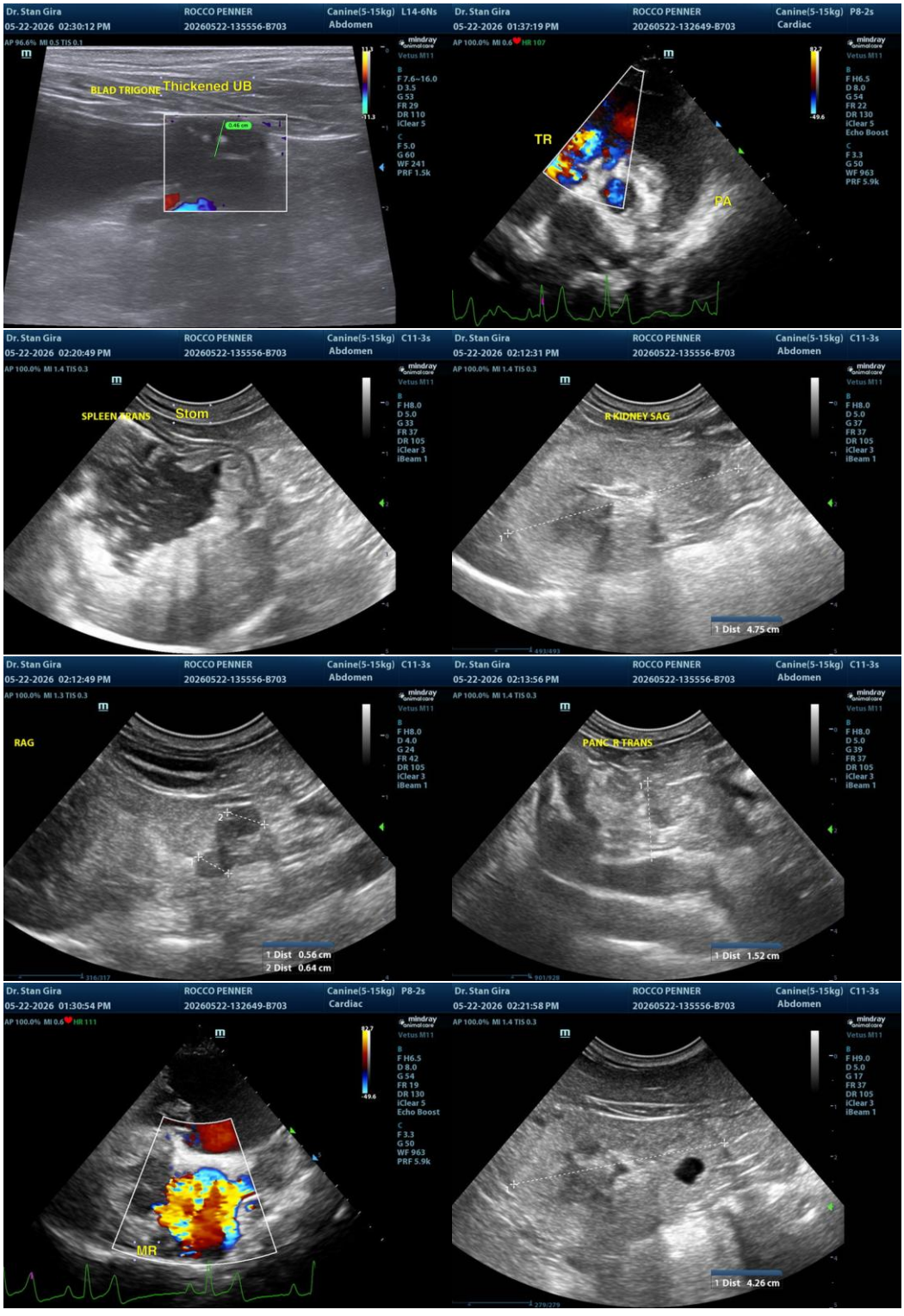

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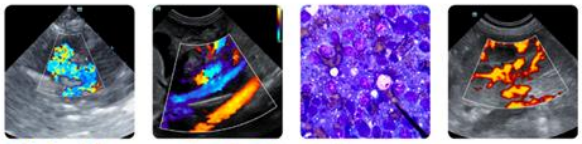

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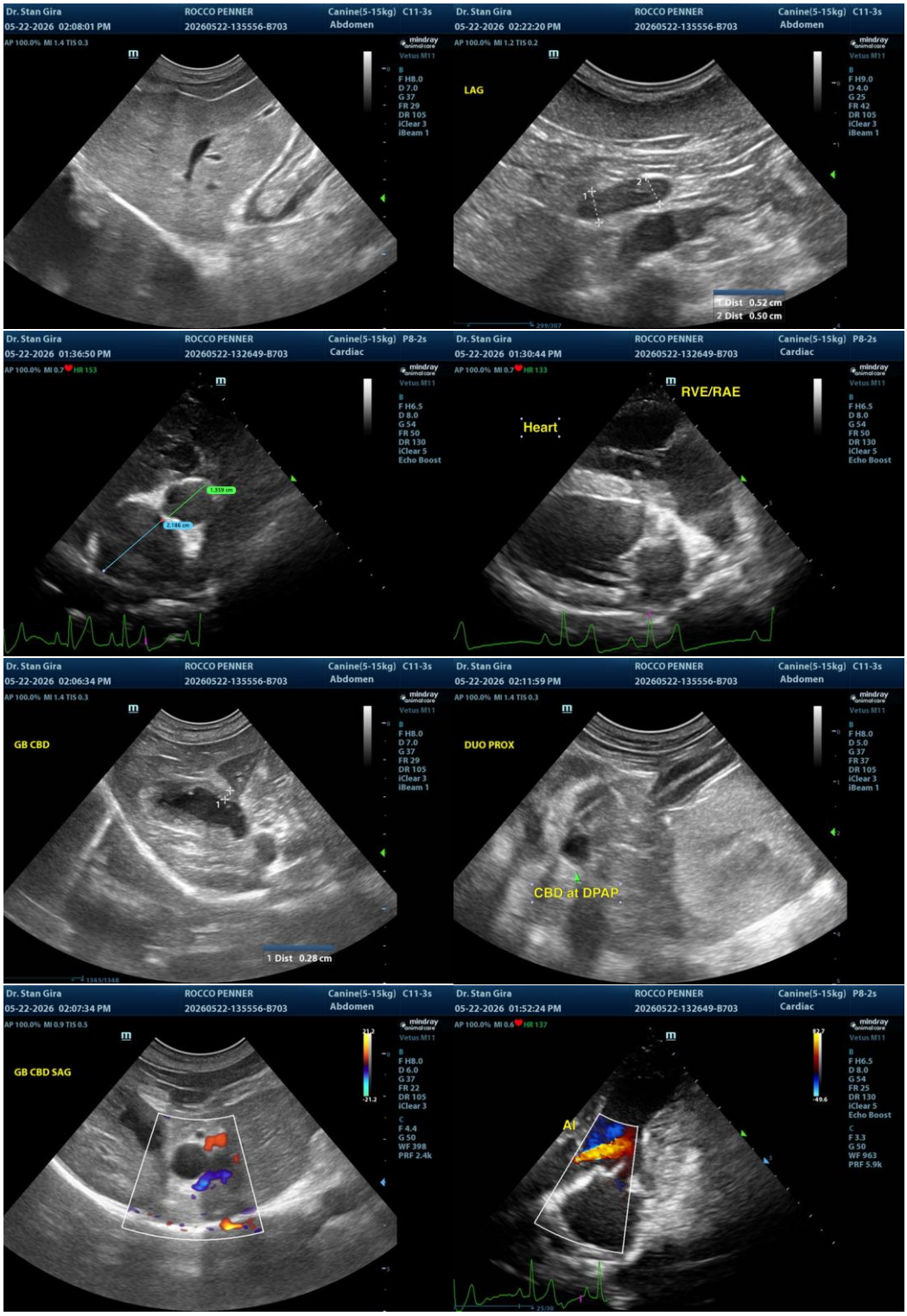
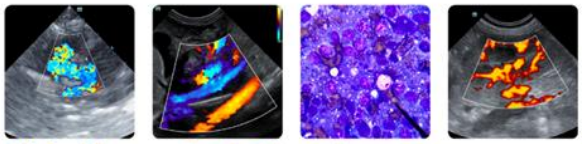


The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not



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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