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Clinical Sonography & Telecytology
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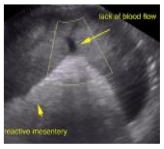
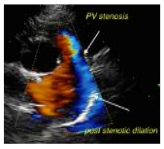
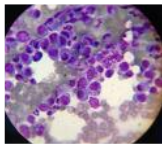
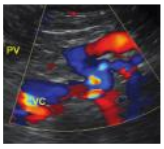





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Buster Krieg

SPECIES

Canine

BREED

Dachshund

SEX

MN

AGE

14 years

WEIGHT

Not provided

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

ACC Flanders

REFERRING VET

Dr. Hallihan

INVOICE

13771

DATE

5/3/22

PRESENTING CLINICAL SIGNS

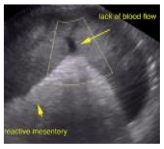
Grade 2-3/6 systolic murmur and pancreatic insufficiency Current meds: Panakare Plus 425mg- 3T BID, Convenia inj on 4/22/22
Abnormal PE/Chem/CBC/UA Results: Neut 81%, Alk Phos 137, BUN/Crea ratio 30, PSL 13

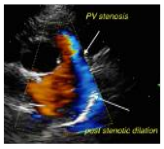
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

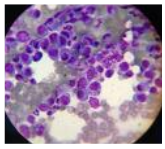
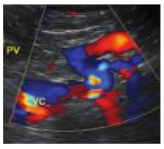
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	5.0	2.5	1.0	1.1	40.5	74.6	0.15
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (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	151	1.4	1.0		2.77	2.52	

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. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. Aortic valve insufficiency measuring approximately 3.0 m/s was present on color doppler. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated mild thickening with mild TR present on doppler. 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.





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Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm 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 was noted.

The residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture measuring 1.3 cm in diameter.

The area of the aortic trifurcation was free of pathology.

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 to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. A small, solitary cortical cyst was present in the left kidney. Minor pyelectasia was noted in the left kidney. The left kidney measured 4.9 cm in length. The right kidney measured 5.7 cm in length.

Adrenal Glands

The bilateral adrenal glands were normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 1.5 cm length x 0.55 cm width in the caudal pole. The right adrenal gland measured 1.7 cm length x 0.82 cm width in the caudal pole.

Spleen

The spleen was normal in overall size and contour with subtle generalized splenic parenchyma heterogeneity. A solitary, nondisruptive, isoechoic to mildly hypoechoic nodule was present in the cranial medial spleen measuring 1.3 cm in diameter.

Liver/ Gallbladder

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. 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. The cystic and common bile ducts were normal.

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.

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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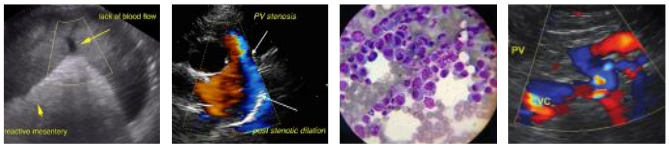

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Pancreas

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

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

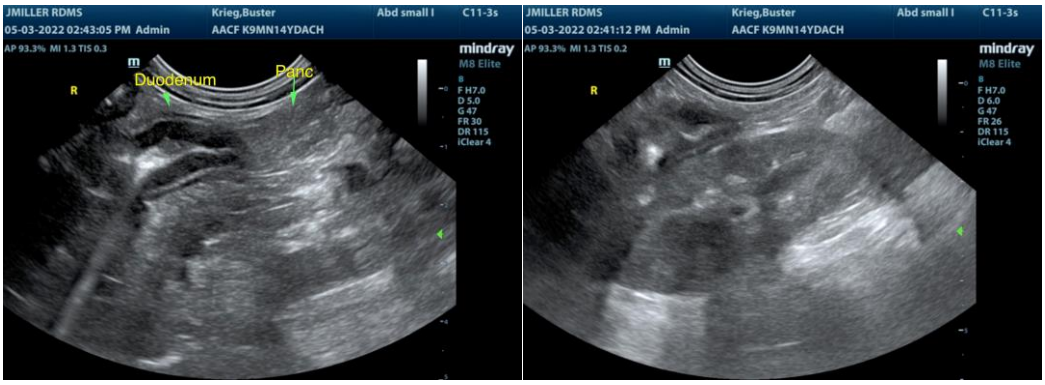
- Chronic mitral valve disease (ACVIM B1)
- TR - estimated pulmonary pressure gradient not consistent with pulmonary hypertension
- AV insufficiency
- Chronic renal changes with minor left kidney pyelectasia
- Nonspecific yet subjectively benign subtle splenic nodule
- Mild heterogeneous pancreas

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is most consistent with mild chronic degenerative valvular changes with secondary insufficiency. The lack of left atrium enlargement indicates that the risk of current and future complications owing to mitral valve Insufficiency is low at this stage. No other clinical issues such as LV systolic dysfunction or evidence of clinical pulmonary hypertension were noted. The aortic valve Insufficiency is nonspecific yet not considered clinically significant. Assessment of systemic blood pressure is recommended to rule out evidence of hypertension. No overt indication for medications at this stage. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs arise.

Largely geriatric abdomen without evidence of significant visceral pathology was noted. Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.

The subtle splenic nodule, although nonspecific, is most consistent with probable focal hyperplasia, hematopoiesis, or granuloma without evidence of neoplastic criteria.



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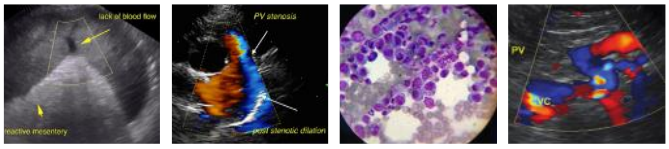

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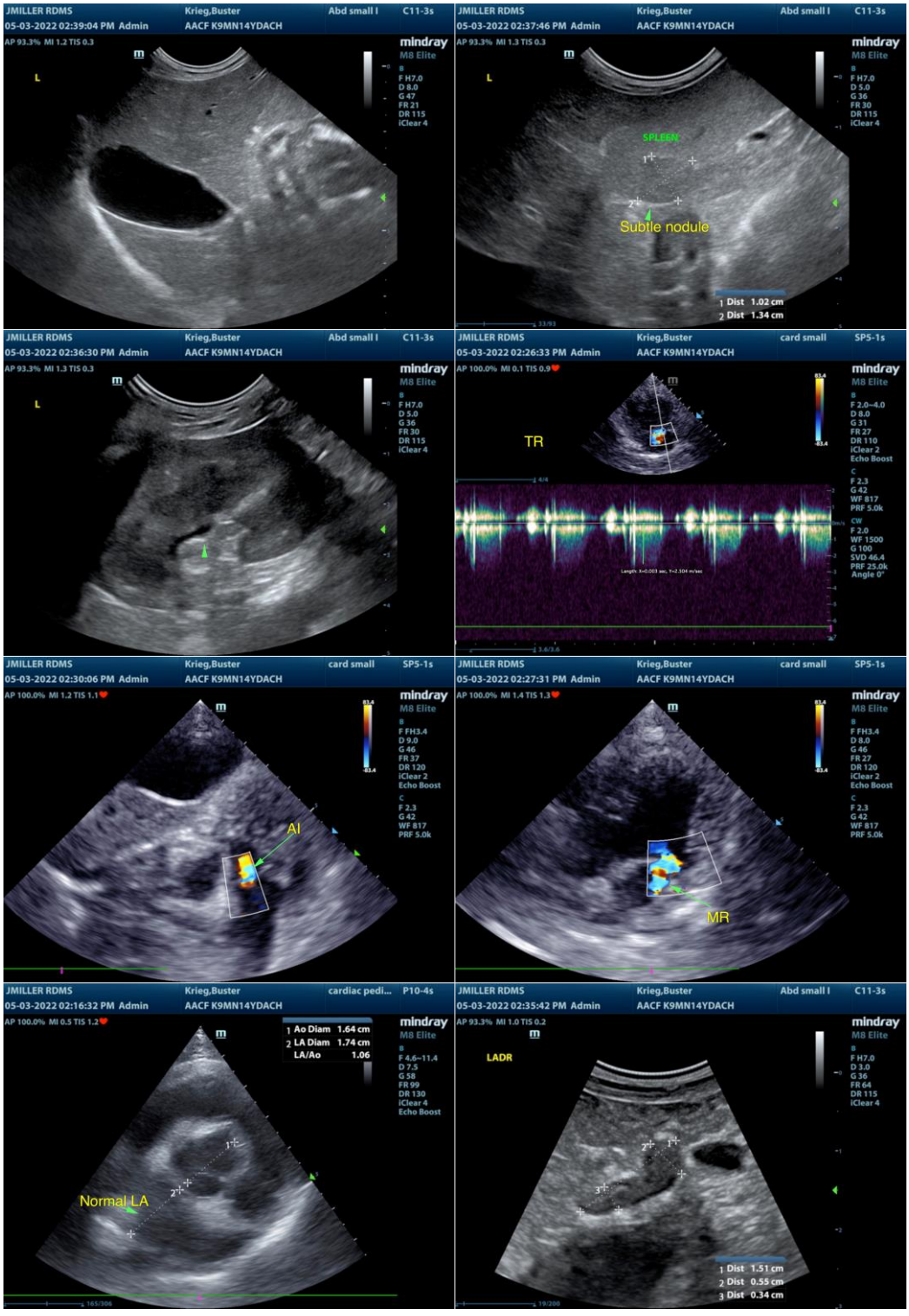

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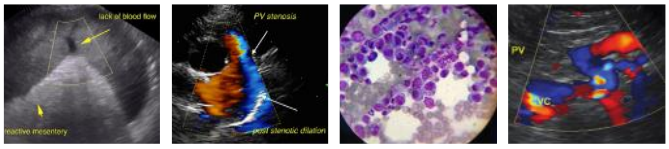

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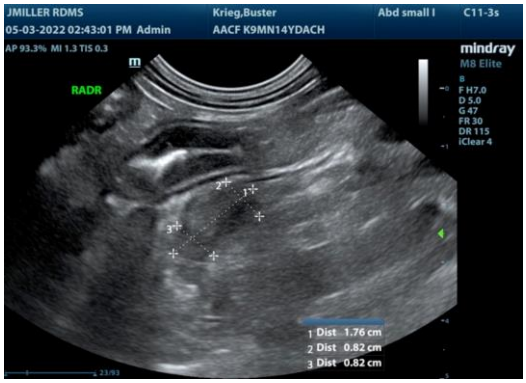

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com