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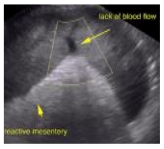
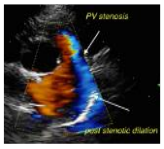
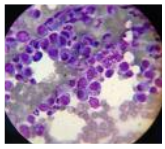
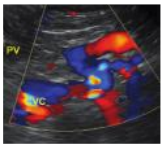

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Sadie Kelly

SPECIES

Canine

BREED

Dachshund

SEX

Intact Female

AGE

13 yrs

WEIGHT

10.6 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Ringwood AH

REFERRING VET

Dr Wilkes

INVOICE

14784

DATE

9/1/22

PRESENTING CLINICAL SIGNS

Patient presents for anorexia and lethargy; intact female. Elevated respiration rate, noisy breathing. On Gabapentin.
Abnormal PE/Chem/CBC/UA Results: RBC 5.38, HCT 37.1, HGB 12.1, lymph 5.5, SDMA 15, TP 7.6, Alb. 2.5, Glob. 5.1.

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	6.1	<2.0		1.6	33	64	0.3
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	124	1.1	0.75		3.0	2.2	

Cardiac Presentation

The echocardiogram in this patient demonstrated mildly enlarged **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 eccentric insufficiency with mild elevated MR velocity. The **left ventricle** exhibited borderline to mild Increased volume. 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 or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. No overt TR was present. 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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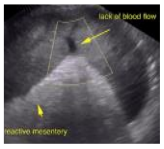

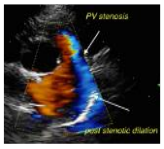

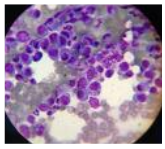
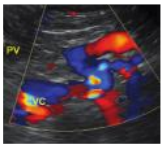

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Urinary System

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.

No evidence of uterine pathology including no evidence of pyometra criteria was noted. The left ovary presented mildly enlarged size to cystic in appearance measuring 2.0 cm in diameter. The right ovary was not definitively visualized.

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 moderate loss of corticomedullary symmetry and definition expected for the age of the patient. Minor bilateral pyelectasia was present. The left kidney measured 3.5 cm in length. The right kidney measured 4.3 cm in length.

Adrenal Glands

The left adrenal gland was normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 1.3 cm length x 0.51 cm width at the caudal pole. The right adrenal gland was mildly prominent in size with mild irregular to nonhomogeneous parenchyma. No evidence of parenchymal mineralization associated with the right adrenal gland. The right adrenal gland measured 1.8 cm length x 0.81 cm width at the caudal pole.

Spleen

The spleen exhibited potential for borderline to mild enlargement with generalized parenchyma heterogeneity with multiple mildly expansive primarily hypoechoic nodules. Some of the nodules exhibited indistinct central mild hyperechogenicity with hypoechoic periphery with subtle distortion of the associated splenic capsule. An example of a splenic nodule measured 1.0 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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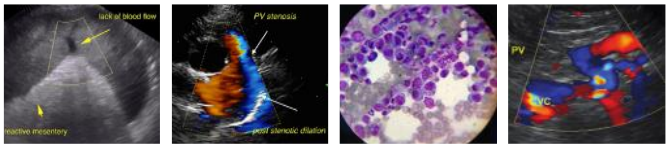

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Pancreas

The 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.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM Mild B2)
- Bilateral chronic renal changes with minor pyelectasia
- Mildly prominent to mild irregular right adrenal gland - adenomatous change, benign / age-related hyperplasia, potential for emerging neoplastic criteria I.e., pheochromocytoma, adenocarcinoma, or other possible
- Nonspecific yet suspicious splenic nodules
- Hepatic parenchymal remodeling
- Cystic left ovary - benign

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The mild left atrium enlargement indicates that the risk secondary to mitral valve Insufficiency is mildly elevated, yet overall, the heart appears to be compensated. No other additional clinical issues such as LV systolic dysfunction or evidence of overt clinical pulmonary hypertension were present. Pimobendan 0.3 mg/kg PO BID is warranted at this stage as this medication may help prolong cardiac changes associated with mitral valve insufficiency. Three-view chest radiographs are recommended if not done to rule out evidence of pulmonary edema and/or other thoracic pathology as a cause of the elevated resting respiration rate. Lowest effective dose of diuretic therapy, if radiographic evidence of pulmonary edema, could be considered yet the elevated resting respiration rate may be multifactorial in origin, including potential for primary lower airway disease. Recheck echocardiogram is suggested in 4-6 months, sooner if definitive clinical signs of heart disease arise.

Ultrasound guided FNA of the splenic nodules, assuming normal clotting status and using a 25-gauge needle for cytology is recommended. Screening BP to assess for evidence of hypertension, given the mild elevated MR velocity and appearance of the right adrenal gland, is recommended. IF evidence of hypertension, urine catecholamine levels could be considered.

Sonographic monitoring of the right adrenal gland and splenic nodules for evidence of progressive changes or enlargement would be a more conservative approach. Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.

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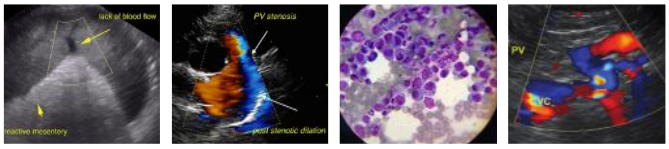

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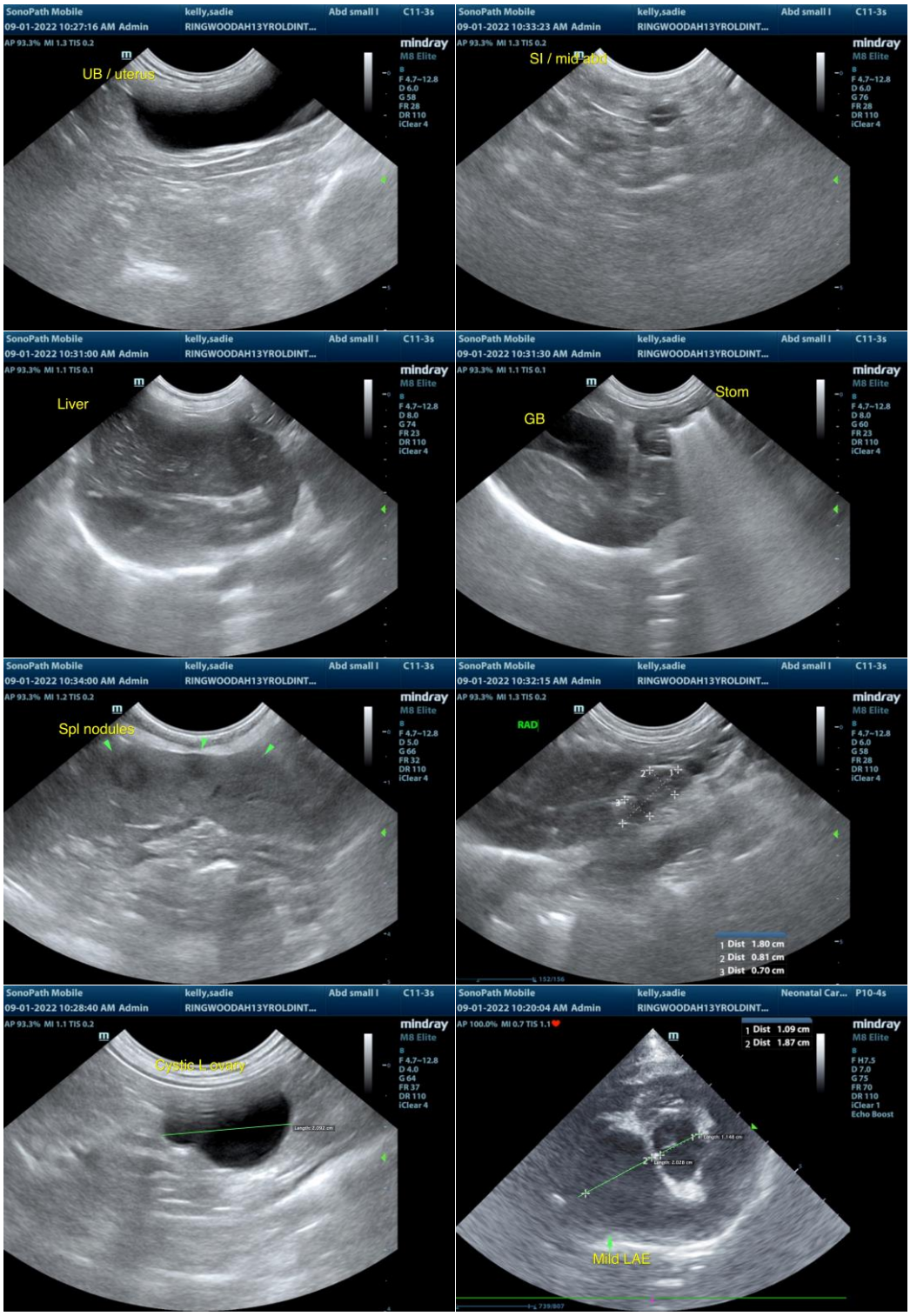

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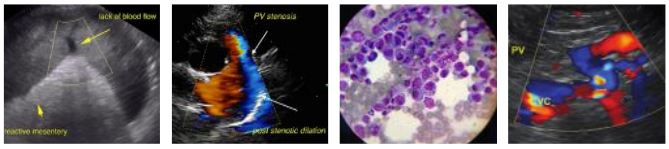

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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