



PATIENT

Fefe Gist

SPECIES

Canine

BREED

Morkie

SEX

Intact Female

AGE

9 years

WEIGHT

4.6 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Oakland AH

REFERRING VET

Dr. Chabora

INVOICE

15348

DATE

11/3/22

PRESENTING CLINICAL SIGNS

Patient presents for cough, new heart murmur. No current meds.

Abnormal PE/Chem/CBC/UA Results: WBC 24.13, Retic 146.9, neutrophil 18.69, monocyte 1.70, PLT 682, ALB 1.9.

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			1.3	39	73	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	119	1.0	0.7		2.0	1.63	

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 mild thickening consistent with mild endocardiosis. Doppler indicated measurable mild to moderate eccentric insufficiency. Mild elevated MR velocity was present. 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. 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.



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Urinary System

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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 1.0 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.

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The uterus appeared to be overall normal in size with mild segmental anechoic luminal fluid. No overt pathology was noted in the area of the left or right ovaries.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 2.9 cm in length. The right kidney measured 2.9 cm in length.

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Adrenal Glands

The left adrenal gland was overtly normal in size, position, and shape. The left adrenal gland measured 0.23 cm width at the caudal pole. The right adrenal gland was not definitively visualized owing to patient size.

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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.

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Liver/ Gallbladder

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. 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.

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Gastrointestinal

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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.

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The small intestine presented intact wall layering with subjective propensity for subtly prominent segmental to generalized mucosa layer with segmental mucosal hyperechoic speckling to fogging.

Normal visible colon wall layers were present with potential semi-formed fecal matter.

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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.



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Free Abdomen

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Intermittent, small pockets of scant primarily peri intestinal free fluid were noted. Mild peri intestinal hyperechoic mesentery was present. No overt lymphadenopathy or omental masses were noted.

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ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1)
- Segmental small intestinal mucosal speckling to fogging - possible PLE given subnormal albumin levels
- Minor segmental uterine luminal fluid - nonspecific
- Intermittent scant pocket of peritoneal free fluid, mild primarily peri intestinal hyperechoic mesentery

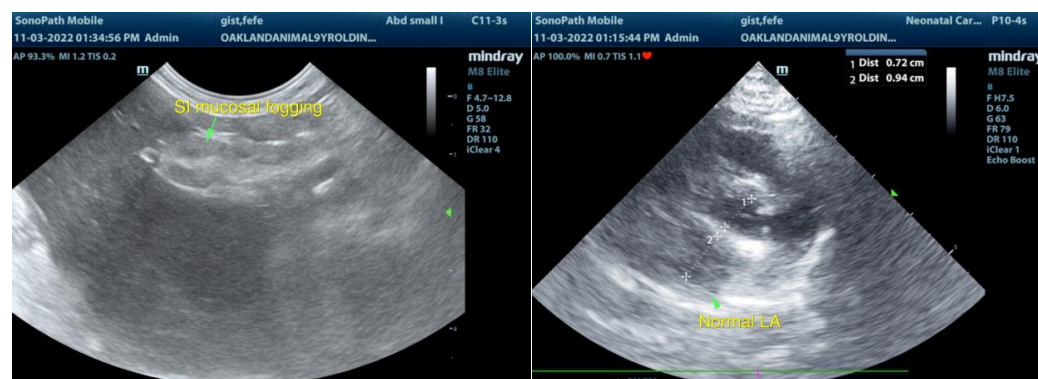
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The lack of left atrium enlargement indicates that the current and future risk of complication secondary to mitral valve insufficiency at this stage is relatively low. No other clinical issues such as LV systolic dysfunction or evidence of clinical pulmonary hypertension were present.

Given this presentation, the coughing in this patient appears to be noncardiogenic in origin. No indication for cardiac medications at this stage. Prognosis is highly variable and serial sonographic monitoring is required for further assessment. As-needed respiratory support would be appropriate. Recheck echocardiogram is recommended in 6 months, sooner if clinical signs consistent with heart disease arise.

Assuming no evidence of proteinuria, the potential for emerging PLE may be of concern in this patient, given the subnormal albumin levels and intestinal presentation even without current reported gastrointestinal signs. Continued monitoring for evidence of gastrointestinal signs and albumin levels going forward is recommended.

The mild uterine fluid is nonspecific yet not overtly indicative of pyometra. Monitoring for evidence of pyometra signs and/or vaginal discharge is suggested.





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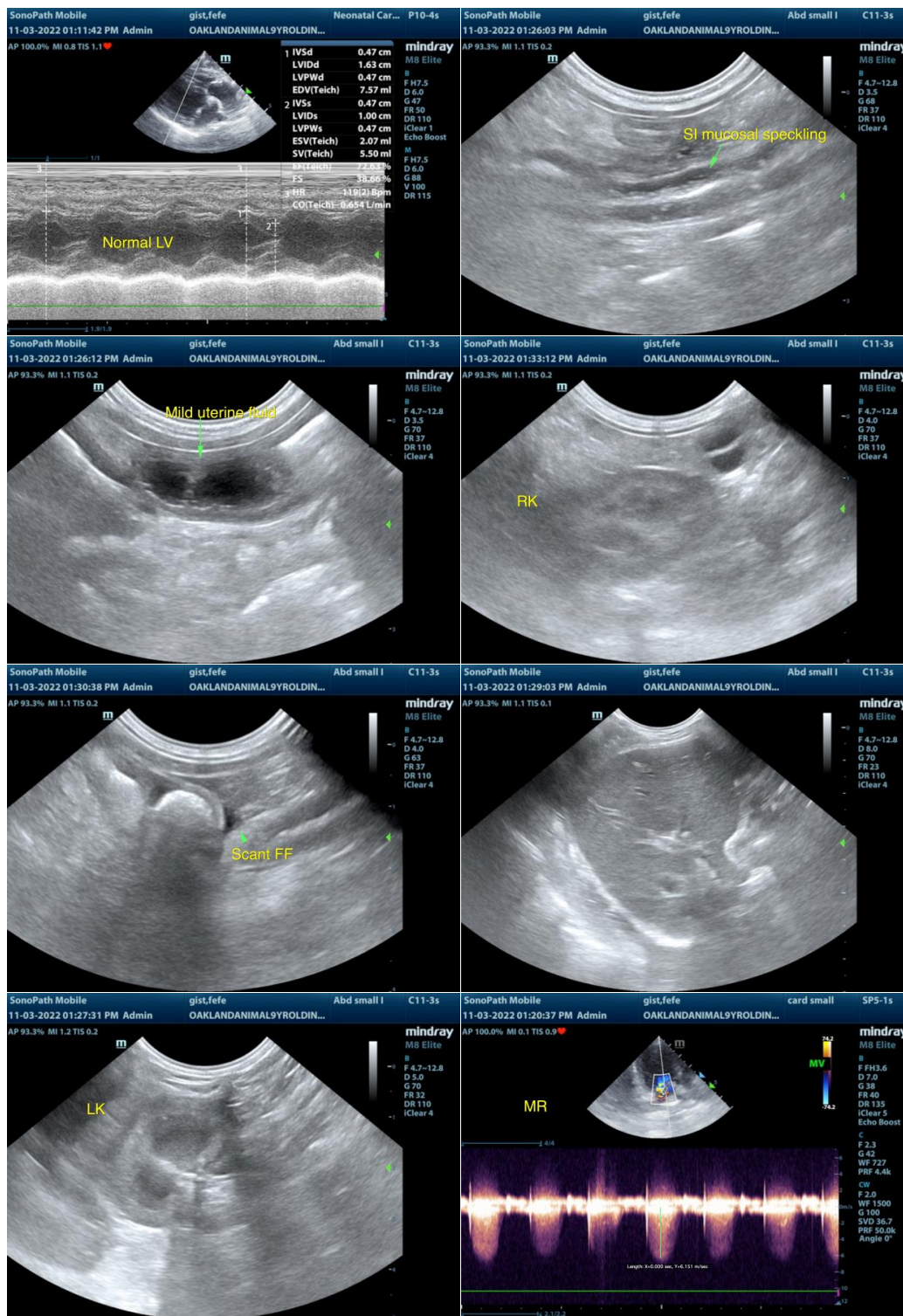
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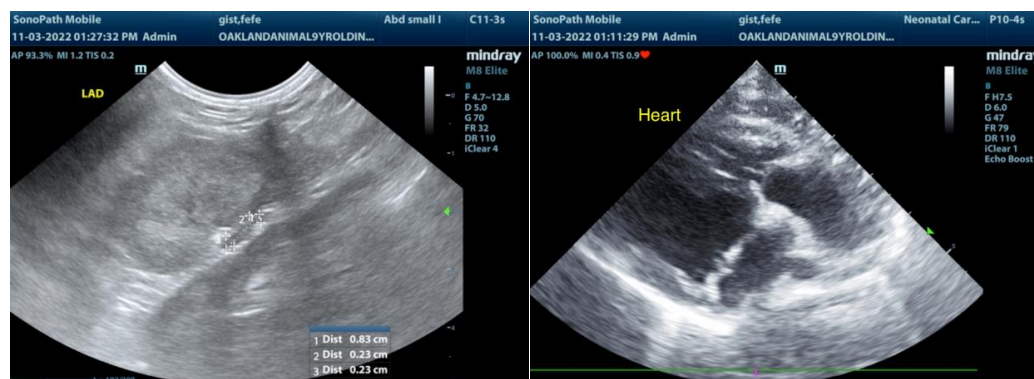
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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