



PATIENT PRESENTING CLINICAL SIGNS

Mocha McMicking

History: Hx: Over the past 2 days, Mocha has been doing a weird intermittent gag. Has been shaking/trembling at times and seemed a little more reserved. There were also some clear liquid coming out from nostrils and mouth Physical Abnormalities: Mild diffuse increase in bronchovesicular sounds bilaterally, much more pronounced caudodorsally. Famotidine, Codeine and Metacam

SPECIES

Canine

Abnormal PE/Chem/CBC/UA Results: Radiographic finding: -mild bronchointerstitial pulmonary pattern diffusely throughout field, much more pronounced caudodorsally -loss of cranial cardiac waist. Cardiac size within normal intervertebral size with otherwise good definition -poor intestinal serosal detail -mild diffuse soft tissue opacity around cranial - mid mediastinal region on VD view Radiographic Interpretation i) Suspect potential cranial cardiac or pulmonary changes -- i.e infection / neoplasia / early CHF ii) No obvious abnormalities noted around abdomen iii) No other obvious pulmonary findings Bloodwork pending.

BREED

Pug X

SEX

Spayed Female

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

AGE

12 Years

WEIGHT

14.2 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Grand River VH

REFERRING VET

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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	--	1.2	1.3	1.3	44	77	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	155	1.7	1.0	--	3.1	3.1	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. Minor TR present on doppler. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** tract



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assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial and extra-cardiac 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 were noted.

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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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 5.1 cm in length. The right kidney measured 5.4 cm in length.

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Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.52 cm width at the caudal pole and 0.44 cm width at the cranial pole.

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The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.59 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.

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Liver

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.

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The gallbladder was non distended in size with minor gallbladder debris. The cystic duct and common bile ducts were normal without evidence of dilation.

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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.

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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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Pancreas



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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 was evident.

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Free Abdomen

No omental masses, lymphadenopathy or peritoneal effusion was present.

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- Overtly normal cardiac structure and function
- Minor TR- estimated pulmonary pressure gradient not consistent with clinical pulmonary hypertension
- Mild age-related kidneys
- Minor gallbladder debris- incidental

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No overt evidence of cardiac or abdominal visceral pathology. The normal cardiac structure and function indicate that the potential radiographic pulmonary changes and increased bronchovesicular sounds are noncardiogenic in origin without evidence of clinical issues, such as left or right heart chamber enlargement, LV systolic dysfunction, clinical pulmonary hypertension, or evidence of cardiac pericardial neoplasia.

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No indication for cardiac medications. If strong clinical concern for potential cranial to mid-mediastinal mass lesion, thoracic CT maybe indicated. Empirical continued respiratory support would be reasonable.

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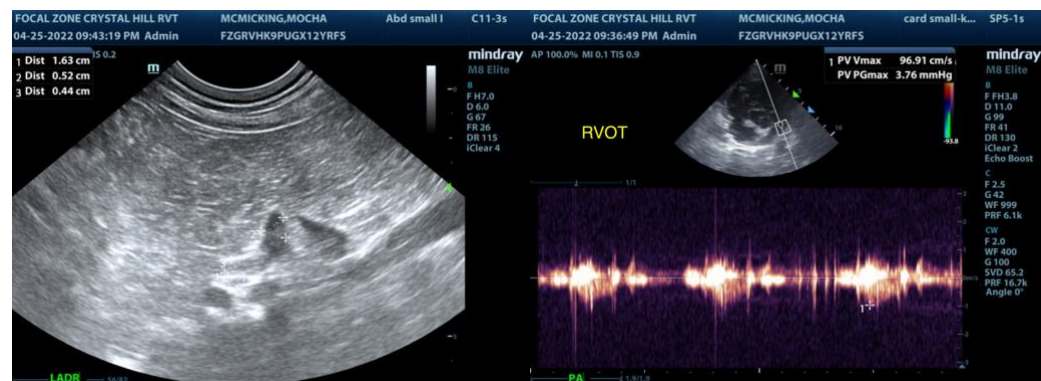
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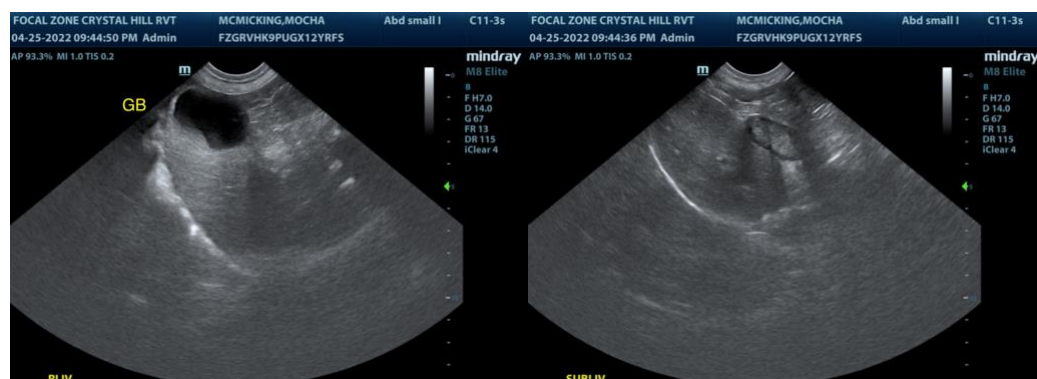
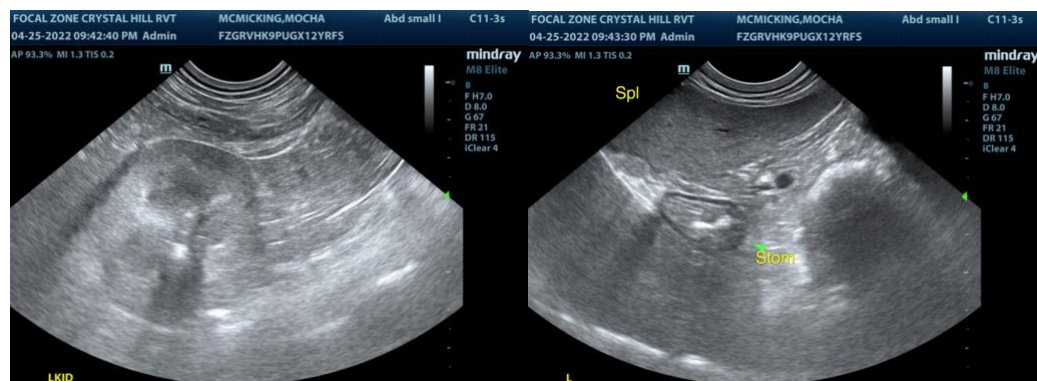
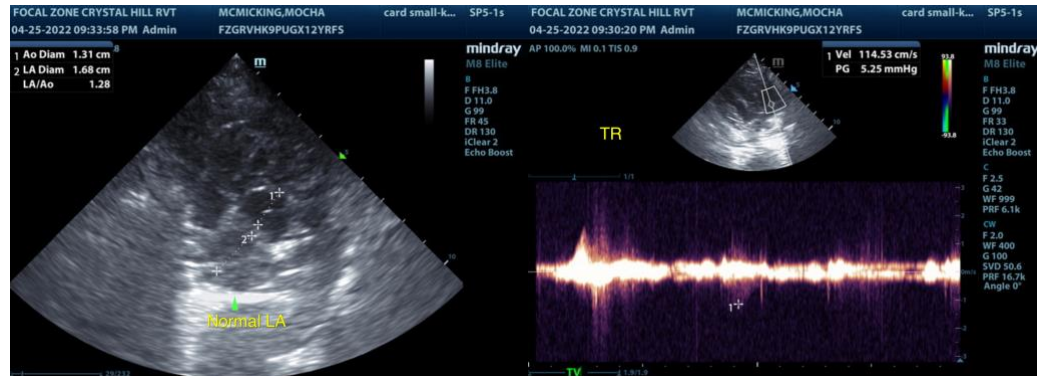
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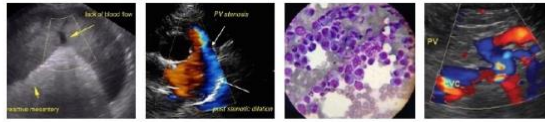
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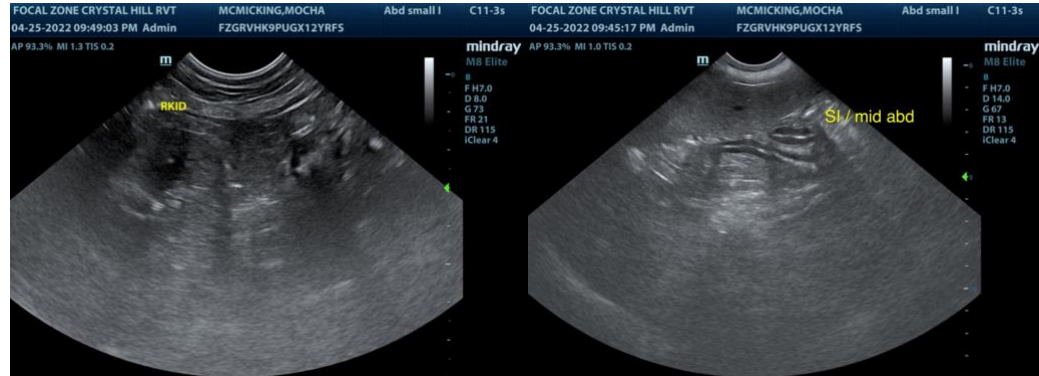
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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