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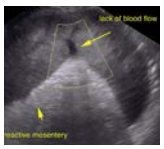
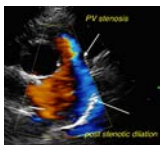
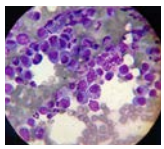
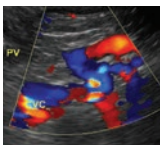





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Ruby Magatti

SPECIES
Canine

BREED
Cocker Spaniel

SEX
Spayed Female

AGE
15 Years

WEIGHT
30 Pounds

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Shari Reffi, CVT

HOSPITAL NAME
Marsh Animal Hospital

REFERRING VET
Dr. Milwicki

INVOICE
44159

DATE
1/12/23

PRESENTING CLINICAL SIGNS

Anorexic, vomiting, acutely lethargic. IMHA-1/2020. Current meds: Cyclosporine, Pred, Hydrocodone, Gabapentin, Tylan, Sucralfate, Omeprazole, Thyrosyn, Clopidogrel.

Abnormal PE/Chem/CBC/UA Results: 12/28/2022-Hct 36.2, Hgb 12.6, Retic 23.3, plt 689, alp 161, Lipase 297

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	<1.6	28-40	40-100	<0.6
PATIENT			1.4	1.5	35	80	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	BELOW	BELOW	BELOW	BELOW
PATIENT	Variable	1.82	1.94		2.5	3.1	

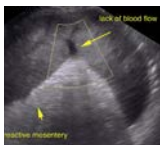
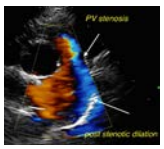
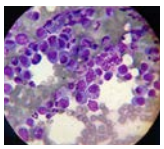
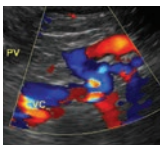
Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Trivial **mitral** insufficiency noted. 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. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.

Bigeminy type arrhythmia noted. Aortic sludging noted.

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction.

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The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Slight pinpoint mineralizations noted. The left kidney measures 5.0 cm.

Adrenal Glands

The **left adrenal gland** was visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 1.9 cm x 0.62 cm at the cranial pole and 0.52 cm at the caudal pole.

The **right adrenal gland** was enlarged with a right phrenic thrombus. The right adrenal measured up to 1.4 cm cranial and 0.95 cm caudal pole. The vena cava appeared free of evident pathology. Enhanced mesentery noted around the right adrenal gland.

Spleen

The **spleen** presented multifocal areas of mineralization and volume contraction. Blood flow appeared to be normal. No evidence of thrombosis.

Liver

The **liver** presented a uniform vacuolar hepatopathy pattern. The liver was mildly hypoechoic to surrounding fat. Minor gallbladder debris and mineralization noted.

Gastrointestinal

The **stomach** was thickened. The gastric wall measured up to 1.3 cm, with retention of ingesta. Spastic duodenum noted. No loss of mural detail. The upper duodenum was empty. A portion of distal small intestine revealed shadowing material that appeared to be fluid absorbing without evident obstruction. This patient is not a strong surgical candidate. Slight free fluid noted around the foreign material. The descending colon was empty.

Pancreas

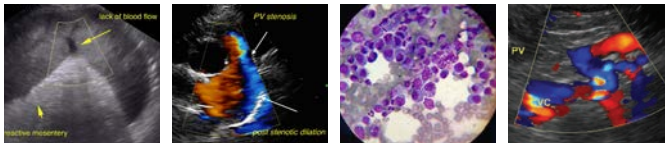
The **pancreas** was enlarged, irregular, and hypoechoic with enhanced surrounding mesentery, suggestive for inflammation.

ULTRASONOGRAPHIC FINDINGS

- Significant arrhythmia, bigeminy pattern with trivial mitral insufficiency, normal cardiac presentation otherwise.
- Distal small intestinal soft grass type foreign matter, variable chronic diseased intestine
- Gastric stasis/gastroenteritis
- Enlarged right adrenal gland with right phrenic vein thrombosis
- Mineralized spleen

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

With aggressive fluid therapy, it is a possibility that the intestinal material may pass eventually into the colon. However, there is significantly diseased bowel, which may have been the underlying stimulation to the presumed PICA in this patient. I cannot rule out underlying round cell neoplasia being partially suppressed by the immunosuppressive therapy in this patient. The most immediate issue in the



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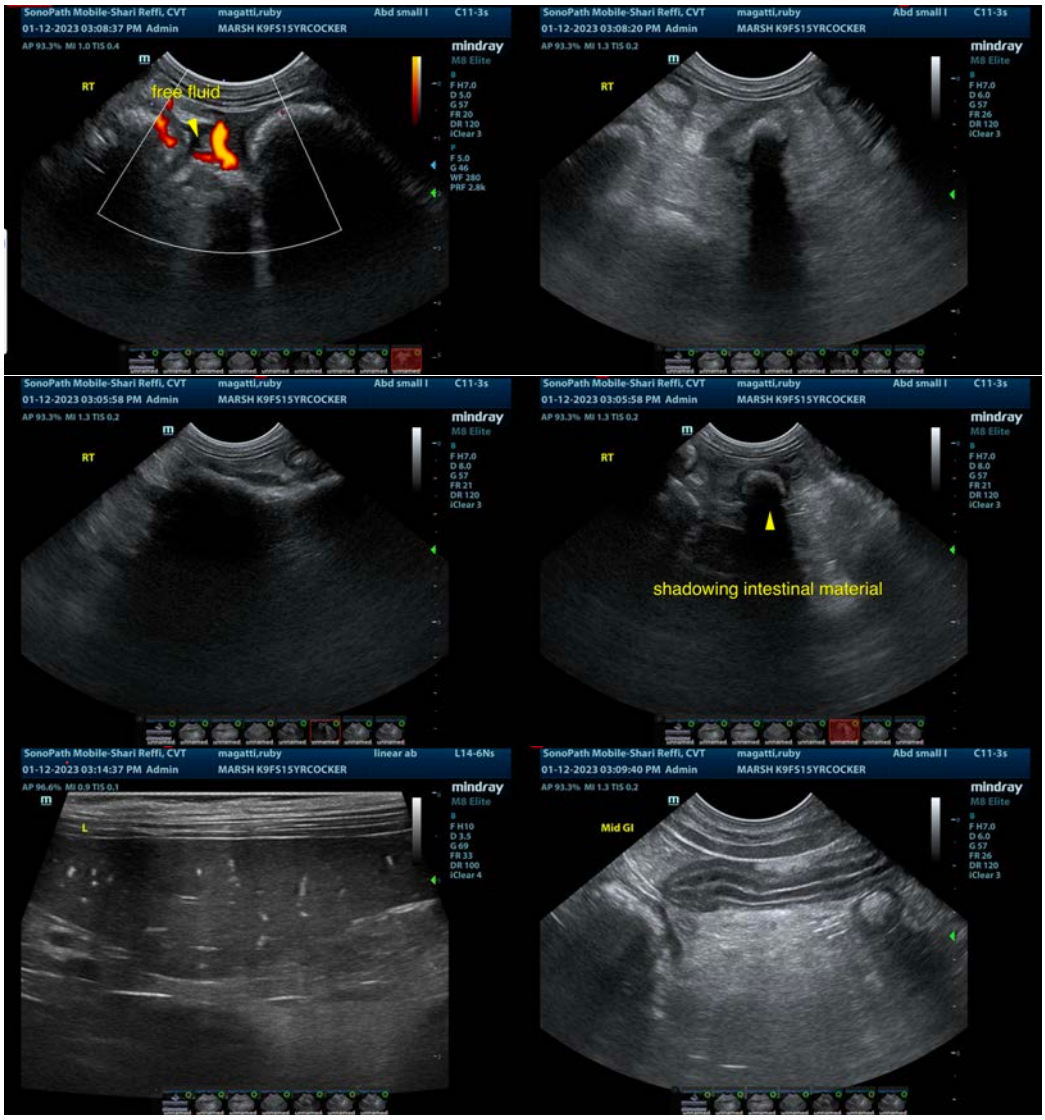
arrhythmia noted. Even though cardiac function is fine, the arrhythmia is significant. STAT EKG indicated.

The GI disease and phrenic vein thrombus are also very important issues. This patient is at high risk for a large thromboembolic event such as pulmonary thromboembolism or similar. Plasma expanders, plasma transfusion, GI protectants, correction of the arrhythmia all indicated and potential stabilization with recheck sonogram in 12-18 hours to assess the material in the distal small intestine, as to whether it can pass into the colon or not. The gastric material that is also present may represent foreign matter that has not passed the pyloric duodenal junction.



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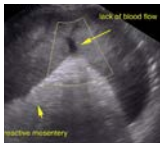
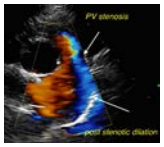
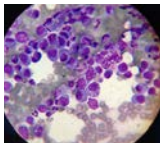
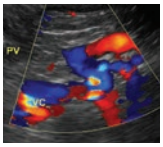

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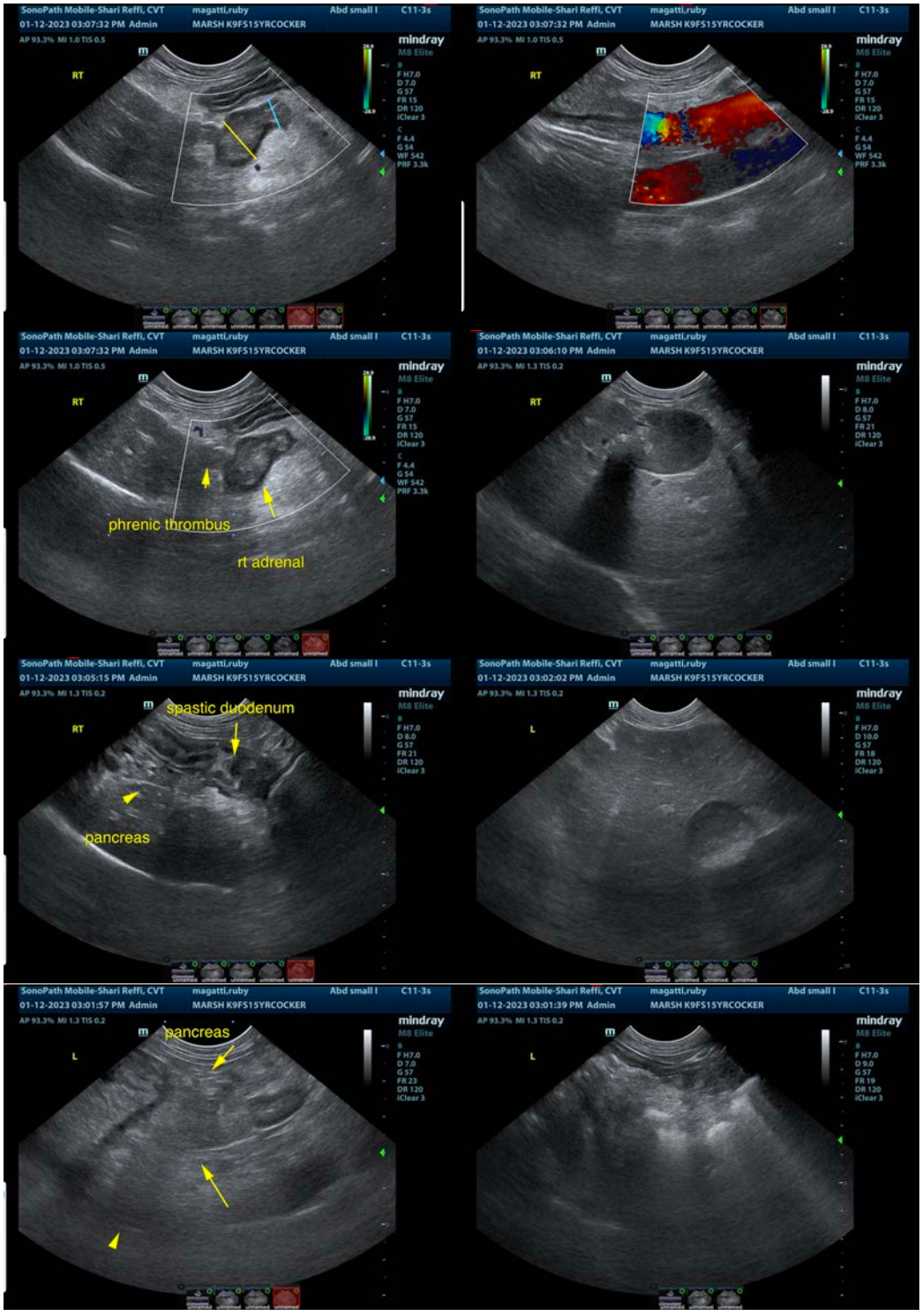

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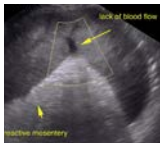
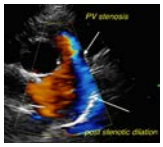
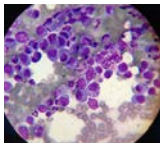
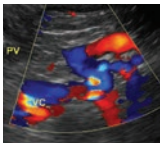

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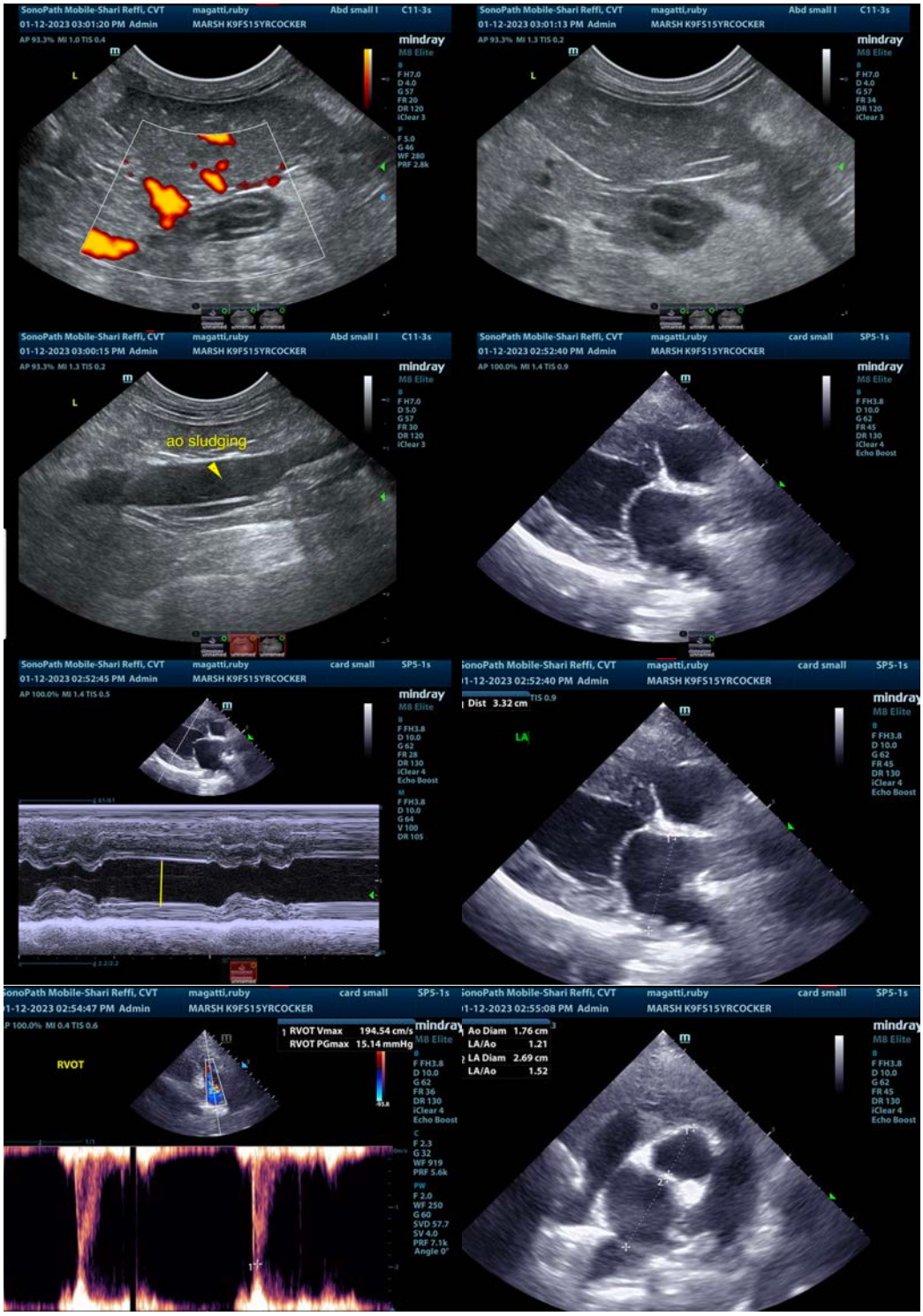

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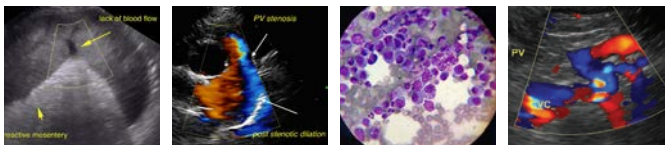

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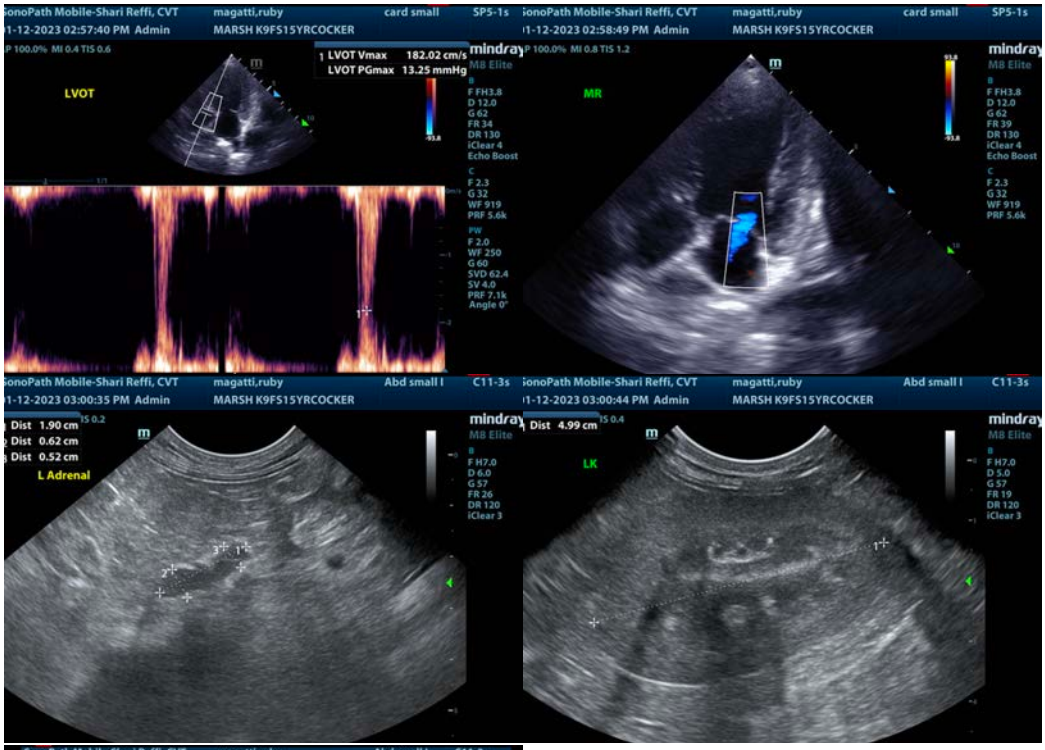

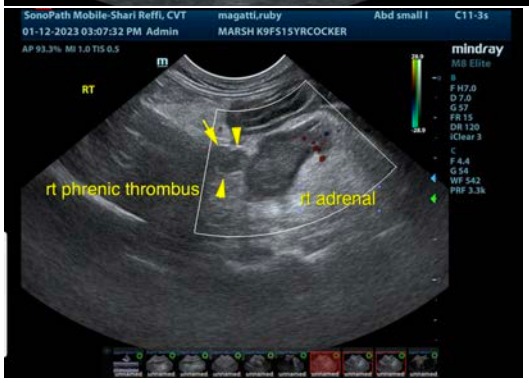

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com

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