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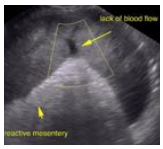

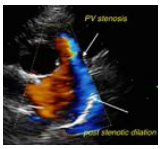

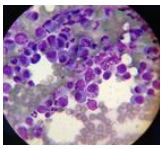
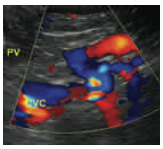

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1-800-838-4268 info@sonopath.com

PATIENT

Stevie Covitt

SPECIES

Canine

BREED

Portuguese Water Dog

SEX

Spayed Female

AGE

1 years

WEIGHT

37 lbs

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez , CVT

HOSPITAL NAME

Marsh Hospital for Animals.

REFERRING VET

Dr. Milwicki

INVOICE

95576

DATE

1/26/22

PRESENTING CLINICAL SIGNS

History of surgically corrected HAVMs, presents today for GI signs. Vomiting and diarrhea, progressively decreasing appetite to near anorexia over 5 days, will eat small amount if coaxed; vomiting bile, febrile. Normal medications: Denamarin and Famotidine. Current treatments: IVF, Cefazolin, metronidazole, famotidine, and Cerenia.
Abnormal PE/Chem/CBC/UA Results: Spec cPL 67, AST 67, creat. 0.4, glucose 54, magnesium 1.4, trigs. 23, WBC 15.7, neuts. 13,659, lymphs. 628. U/A: pH 7.5, protein 1+, glucose strip trace (high), struvite crystals 11-20, amorphous phosphate crystals 11-20, ammonium urate crystals 11-20.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Trivial **mitral** valve insufficiency was 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. Trivial **tricuspid** insufficiency was noted and measured 1.5 m/sec. 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.

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	2.0	1.5	1.1	1.25	30	58	NM
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	100	1.5	0.98		3.72 max	3.85	

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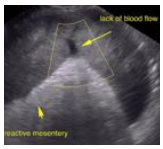

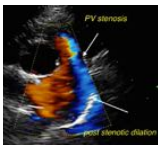

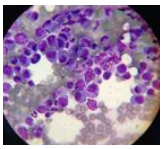
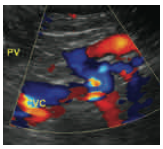

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ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** presented small calculi. A grouping of which measured 1.5 cm.

The **kidneys** were slightly swollen and mildly hypervascular. This is expected for the patient's metabolic status. The right kidney measured 5.8 cm. The left kidney measured 5.84 cm.

Adrenal Glands

Both **adrenal glands** were 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 right adrenal gland measured 1.63 x 0.8 cm at the cranial pole and 0.6 cm at the caudal pole. The left adrenal gland measured 2.32 x 0.51 cm at the caudal pole and 0.72 cm at the cranial pole.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

Liver

The **liver** images submitted revealed moderate microhepatica. A moderate amount of hepatic remodeling was noted. The surgical site appears to be stable. There was minor tortuosity to the portal vein. There was moderate congestion in the portal vein with excessive size measuring 1.5 cm with minor tortuosity and incomplete filling on color flow assessment. This is suspicious for portal vein thrombosis or at least extremely slow flow. Given the free fluid in the mid caudal abdomen portal hypertension is suspected. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. The hepatic lymph nodes were slightly enlarged.

Gastrointestinal

There was retention of ingesta noted in the **stomach**, yet there was no evidence of foreign matter. The duodenum was empty. Transit of chyme into the small intestine appeared normal. The colon revealed soft stool. Reactive mesenteric lymph nodes were present. Trace amounts of free fluid were noted. This may be associated with portal hypertension.

Pancreas

The **pancreas** was mildly coarse in architecture. There was no evidence of active inflammation.

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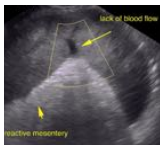

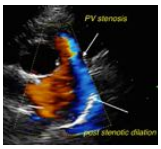

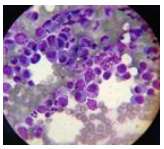
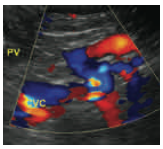

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ULTRASONOGRAPHIC FINDINGS

Essentially normal echocardiogram with trivial mitral and tricuspid insufficiency.

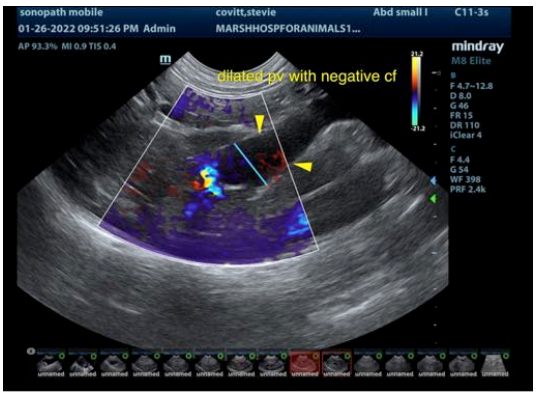
Small bladder calculi.

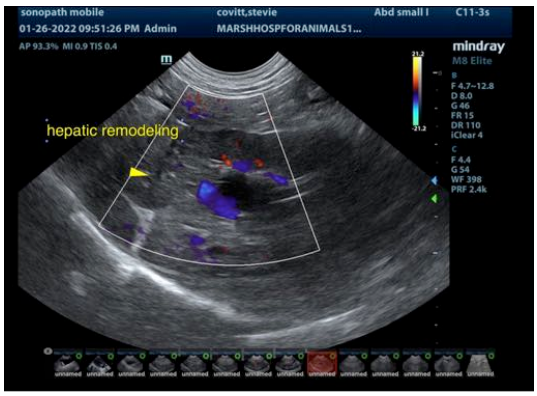
Microhepatica with moderate remodeling. Portal vein congestion, suggestive for portal vein thrombus and secondary portal hypertension which may be both hepatic and pre-heaptic in origin.

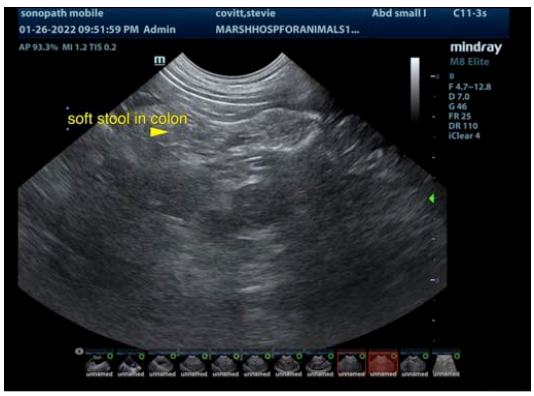
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

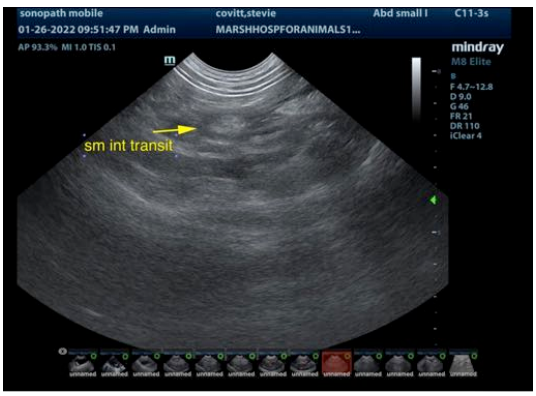
I recommend return to Animal Medical Center for follow-up CT with contrast regarding the portal vein pattern. Full coagulation panel with D-Dimers is recommended to assess for hypercoagulable state. Bile acid profile is also indicated. There was no evidence of obstructive disease. GI protectants are also indicated as well as supportive care. Trace amounts of free fluid were noted, which may be associated to portal hypertension.

I am concerned for pre-hepatic and/or hepatic induced portal hypertension given the free fluid as well as the poor color flow uptake into the portal vein and echogenic debris, which is suggestive of thrombosis. However, this cannot be completely confirmed. General GI upset and soft stool was noted in the colon with no evidence of obstruction.









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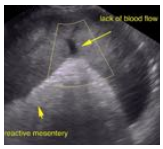

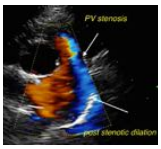

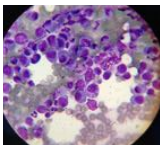
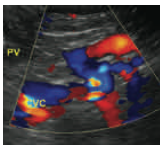

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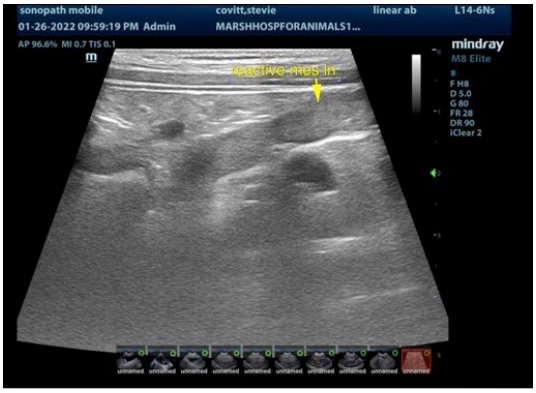

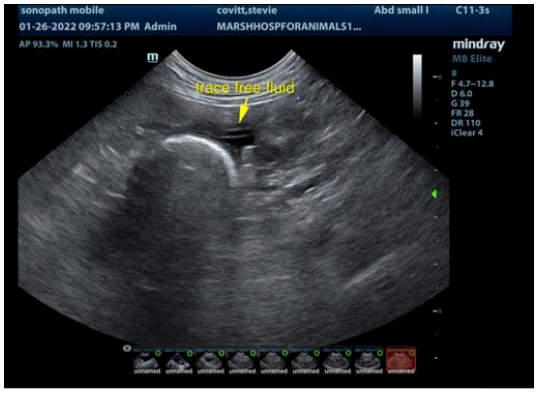

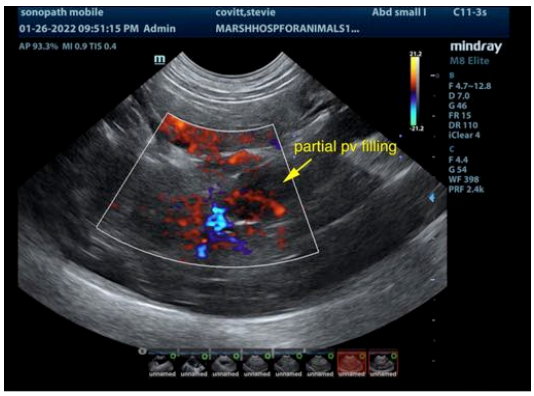

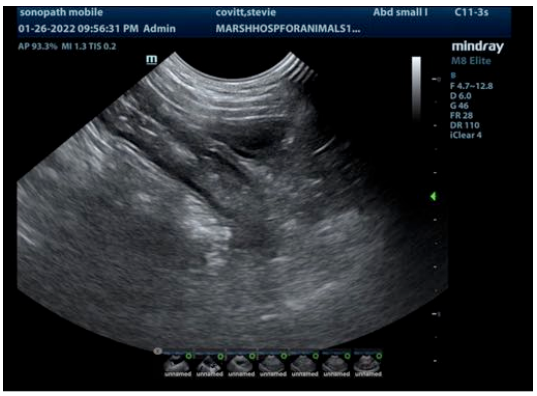
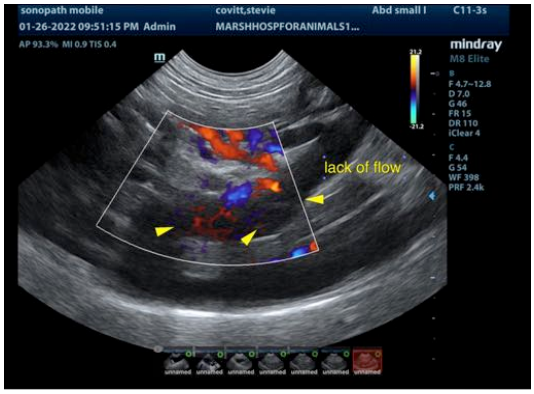

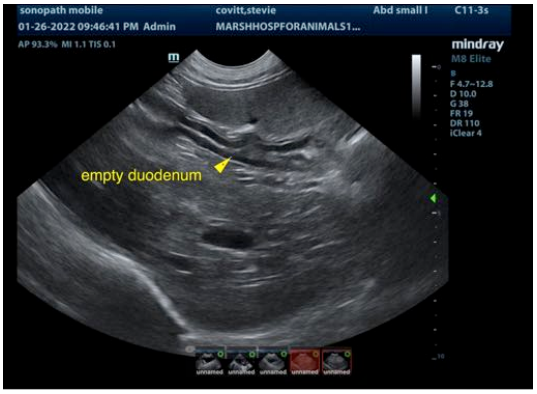

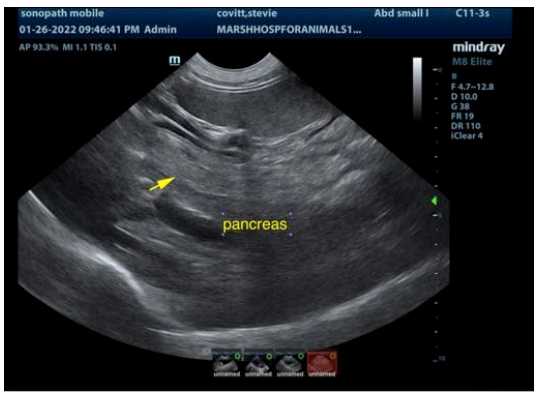

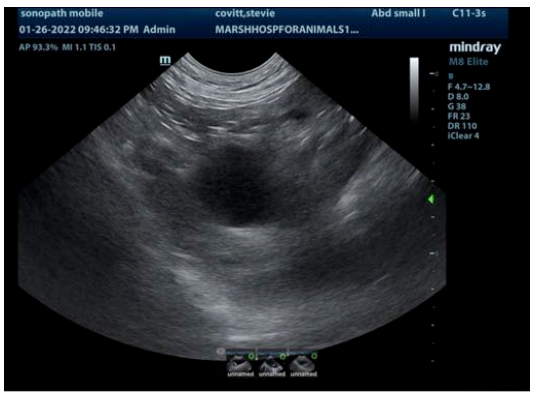

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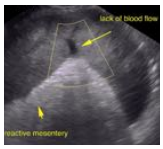

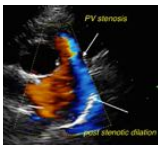

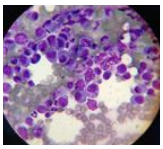
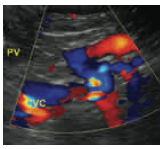

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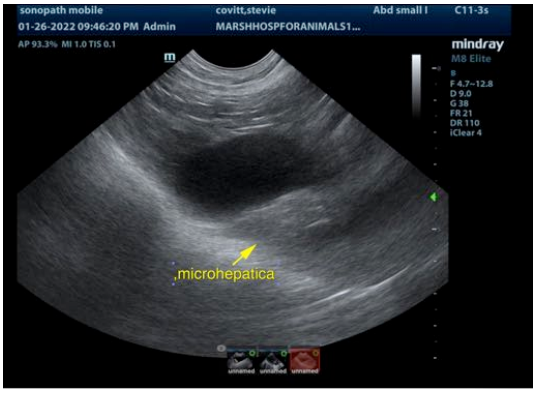

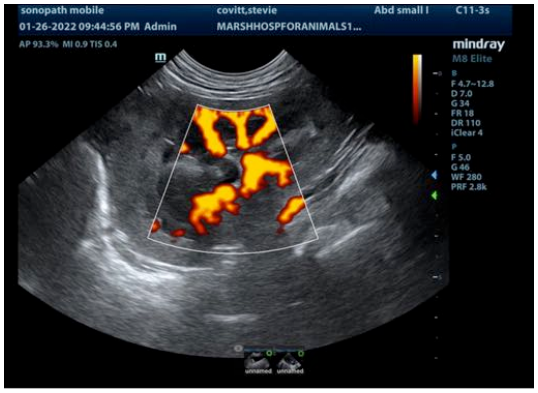
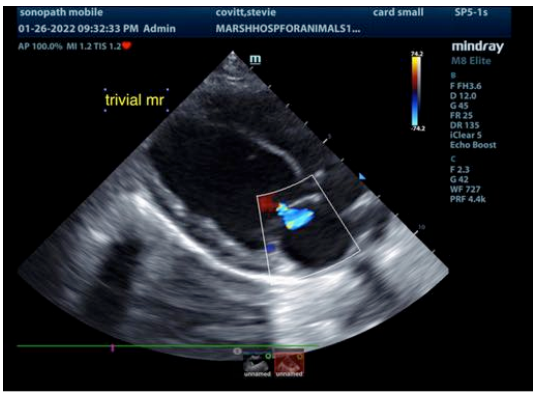

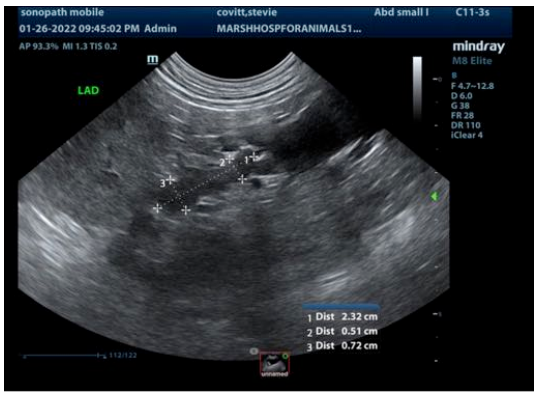

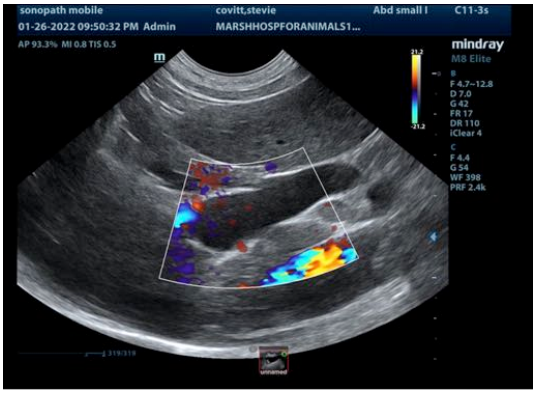
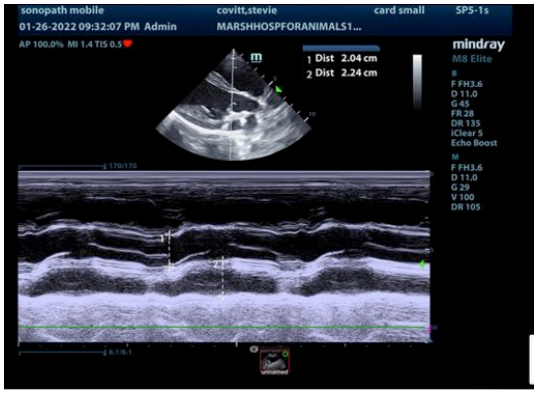

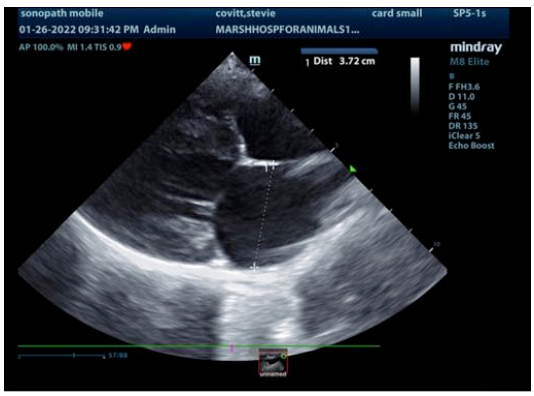

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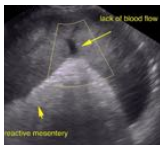
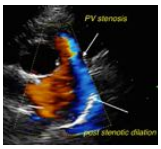
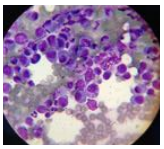
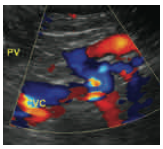

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PATIENT

Stevie Covitt

SPECIES

Canine

BREED

Portuguese Water Dog

SEX

Spayed Female

AGE

1 years

WEIGHT

37 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez , CVT

HOSPITAL NAME

Marsh Hospital for Animals.

REFERRING VET

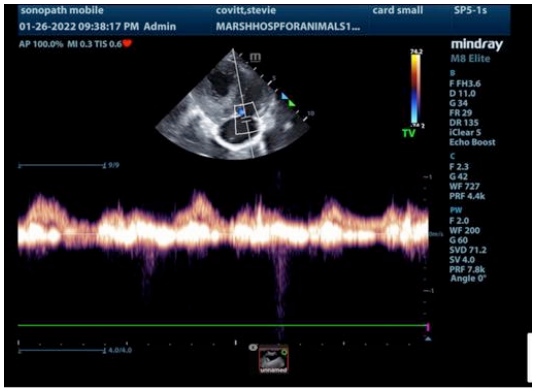
Dr. Milwicki

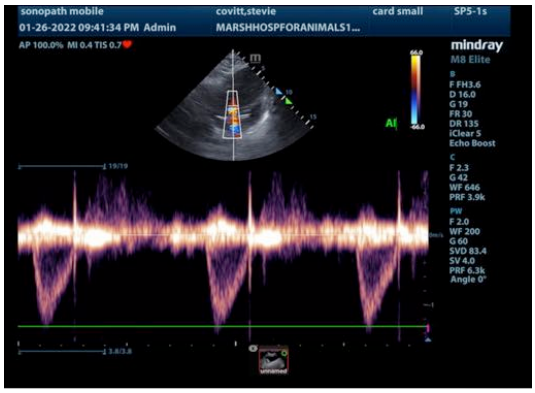
INVOICE

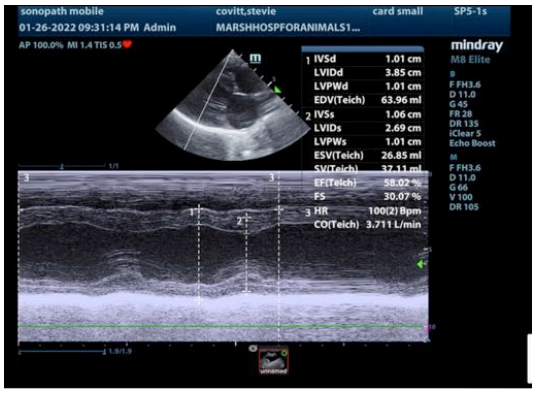
95576

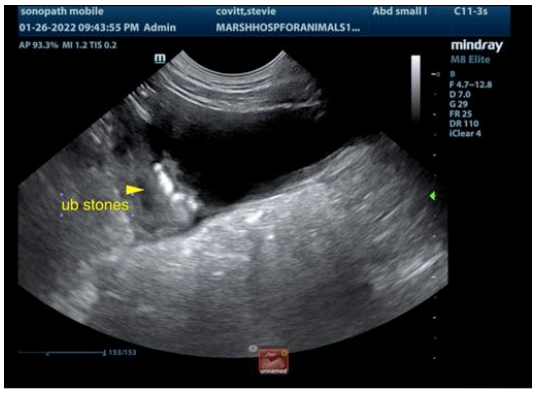
DATE

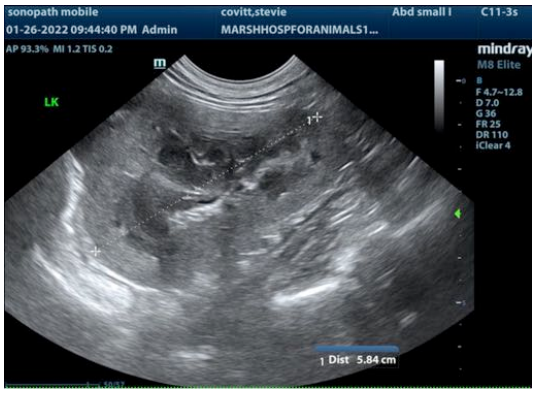
1/26/22

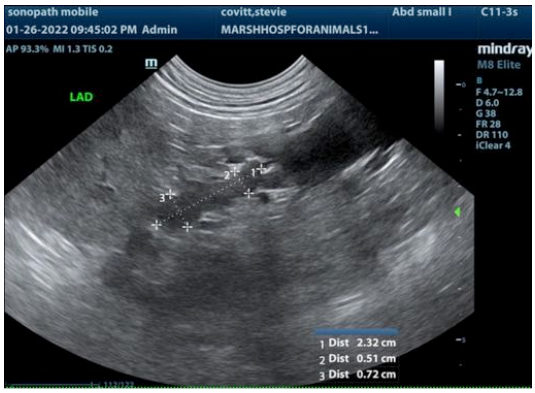


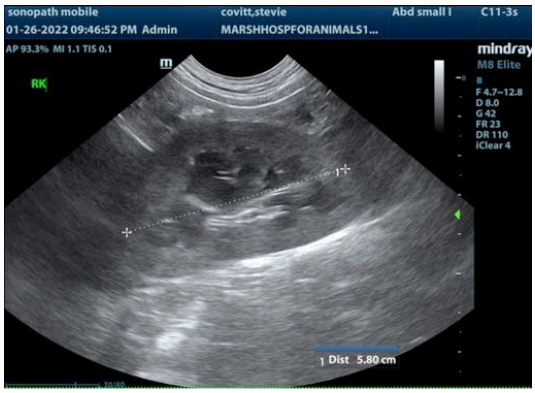












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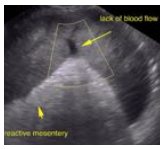
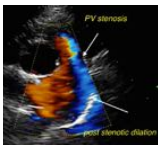
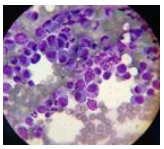
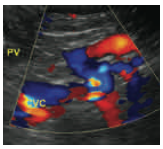

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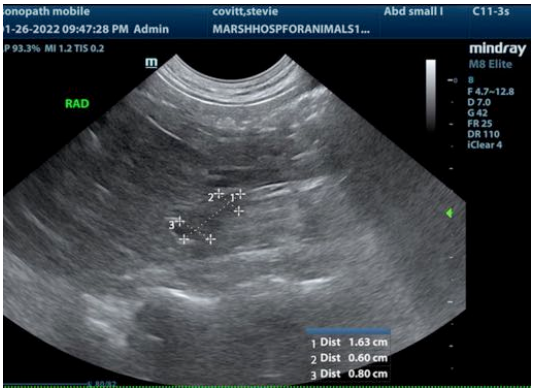

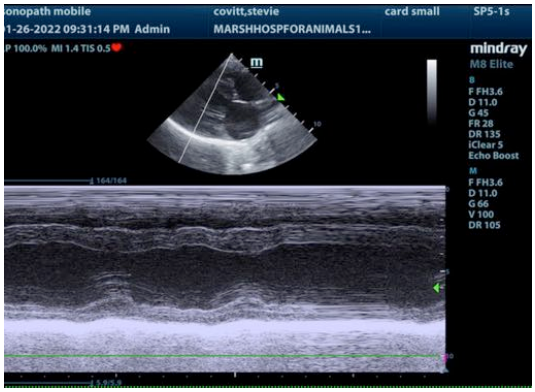

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
info@SonoPath.com