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Clinical Sonography & Telecytology
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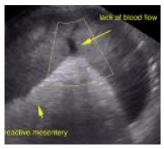
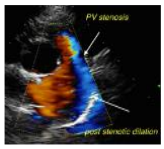
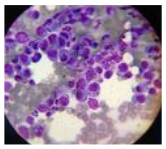
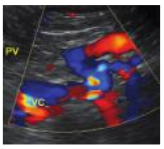





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Ralphie Clegg

SPECIES

Canine

BREED

Mixed Breed Canine

SEX

Neutered Male

AGE

12 Year

WEIGHT

37 Pounds

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Sova AH

REFERRING VET

Dr. Ammeraal

INVOICE

17132

DATE

9/2/22

PRESENTING CLINICAL SIGNS

History: Grade 3-4/6 heart murmur, ruptured ACL. Echo and abdominal ultrasound today to rule out any pre-anesthetic concerns before ACL repair. Current med: Novox 75mgs 1 PO BID.

Abnormal PE/Chem/CBC/UA Results: Alk. Phos. 1626, GGT 23, Alk. Phos. 395, Phos. 6.2, chol. 568, trigs 827, T4 1.3, UPC: 1.4, USG: 1.006.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

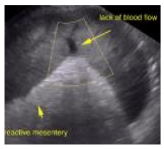
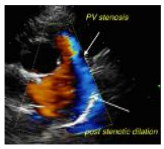
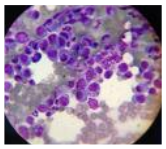
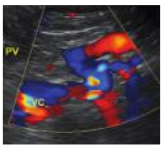
CANINE CARDIAC PARAMETERS	**MR VMAX** (m/s)	**TR VMAX** (m/s)	**LA/AO** (Boon method)	**LA/AO** (Heart Base; Swe)	**FS** (%)	**EF** (%)	**EPSS** (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	6.0	--	1.2	1.8	78	45	NM
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV 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	111	1.50	--	--	3.85	3.6	--

Cardiac Presentation

The echocardiogram for this patient presented excessive **left atrial size** expressed both in the LA/AO and LA max measurements Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. 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. Aortic insufficiency was noted. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. Minor tricuspid insufficiency was noted. 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.

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

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was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some mild 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. The right kidney measured 7.02 cm. The left kidney measured 6.45 cm.

Adrenal Glands

A **right adrenal mass** was noted in this patient, measuring 3.12 cm x 2.52 cm. The mass was expansive without capsular escape or vascular invasion.

The **left adrenal gland** was subnormal in size, measuring 1.75 cm x 0.38 cm at the caudal pole and 0.26 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 were noted.

Liver

The **liver** was uniformly swollen with minor, excessive gallbladder debris and over distension with dependent and suspended bile without evidence of overt mucocele formation. However, excessive sludge was present. The liver presented coarse architecture with mildly increased portal markings and subtle, mixed echogenic changes. This is consistent with vacuolar hepatopathy and some level of remodeling and history of inflammatory component. There was no overt suspicion of neoplasia. This is a minor change. The vena cava was free of evident pathology.

Gastrointestinal

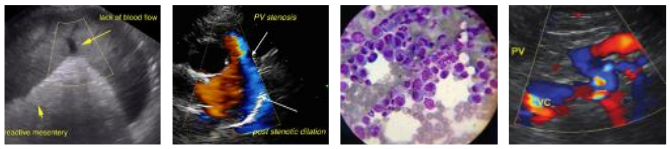
The **stomach** itself was unremarkable. The duodenum revealed a 0.5 cm transiting structure. This is likely medication and nonobstructive.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

ULTRASONOGRAPHIC FINDINGS

- Mild left atrial enlargement
- Aortic insufficiency
- Tricuspid insufficiency
- Right adrenal mass. Adenoma, adenocarcinoma, pheochromocytoma are all possible
- Left adrenal gland subnormal in size



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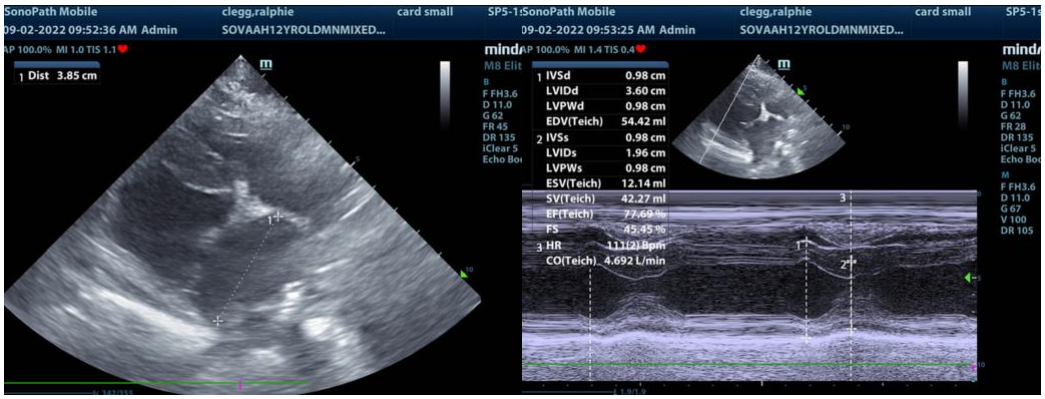
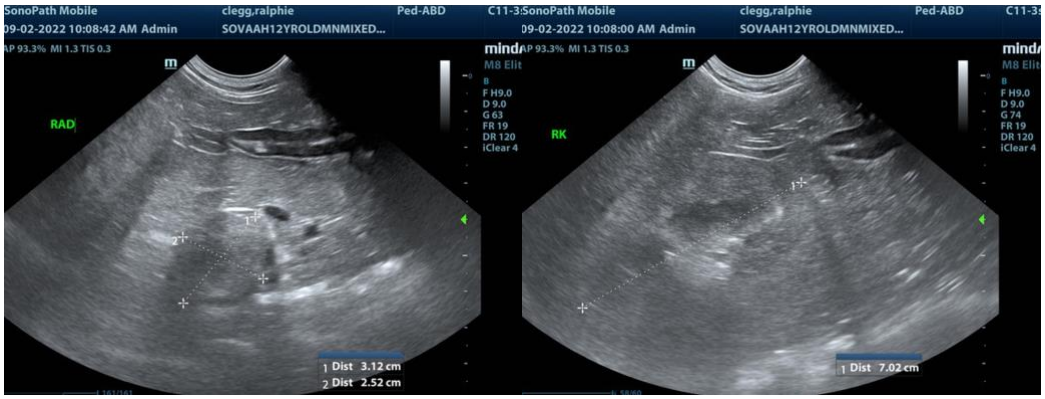
- Transiting structure in the duodenum, likely medications or other smaller foreign body
- Age-related renal changes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

If vertebral heart score is mildly excessive, then Pimobendan at 0.3 mg/kg BID is warranted over 1 week and recheck echocardiogram. The right adrenal gland does appear resectable. If hypertension or if Cushingoid signs are present, then right adrenalectomy is essential, however, proactive right adrenalectomy may be the best option in this patient. There is only minor anesthetic risk given the early stage B-2 valvular disease. Torbutrol (premed), Propofol (induction), isoflurane (maintenance) is recommended. However, given the isosthenuria in the right adrenal mass, I recommend also giving consideration to right adrenalectomy in addition to the ACL issues. I'm concerned that underlying Cushings disease may be predisposing to the ACL rupture. If the patient is hypertensive, there is more contraindication to anesthetic procedure, however, left atrial size is mildly excessive at this point.





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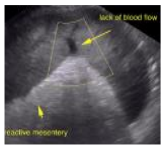
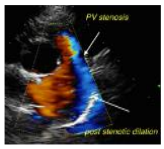
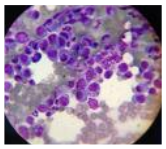
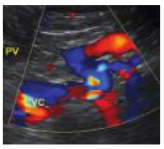

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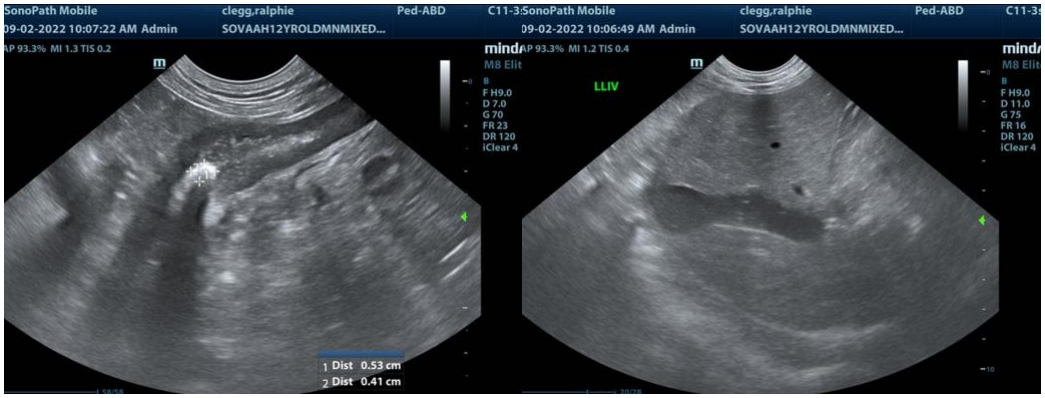

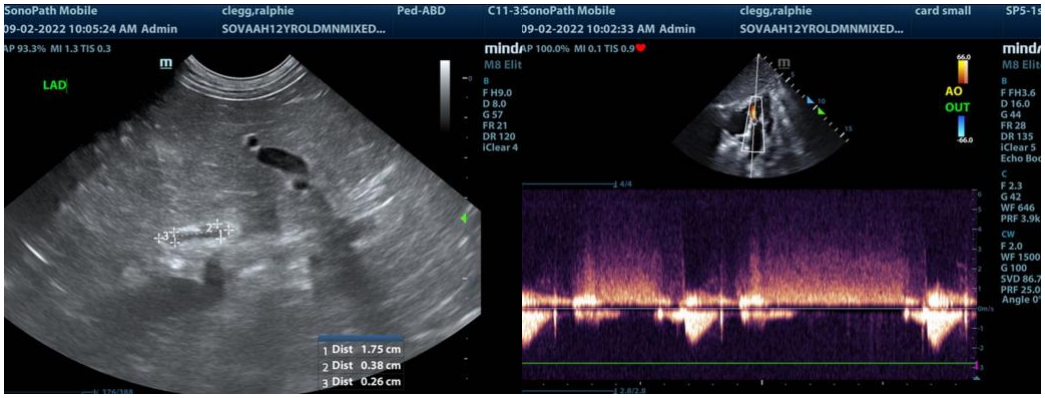

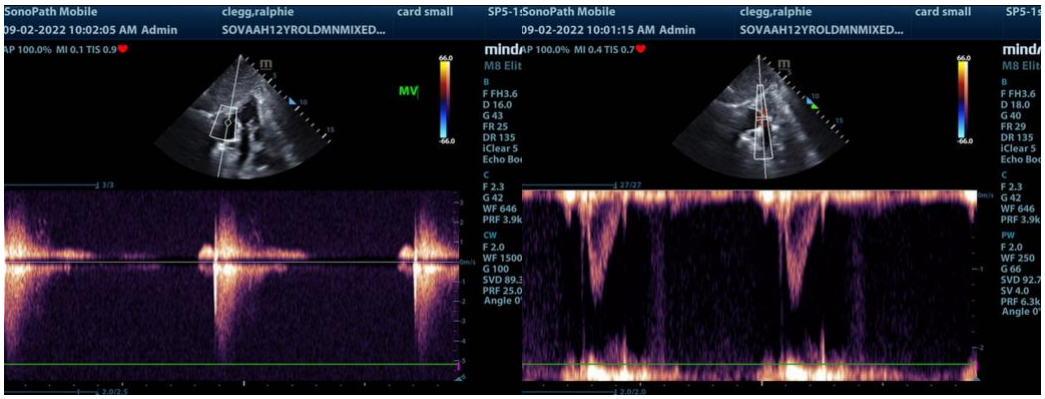

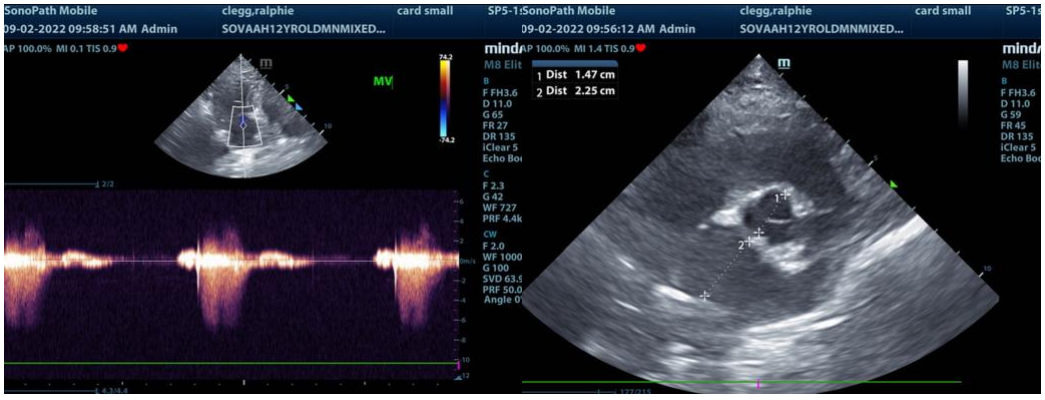

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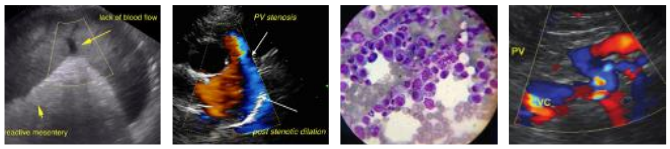

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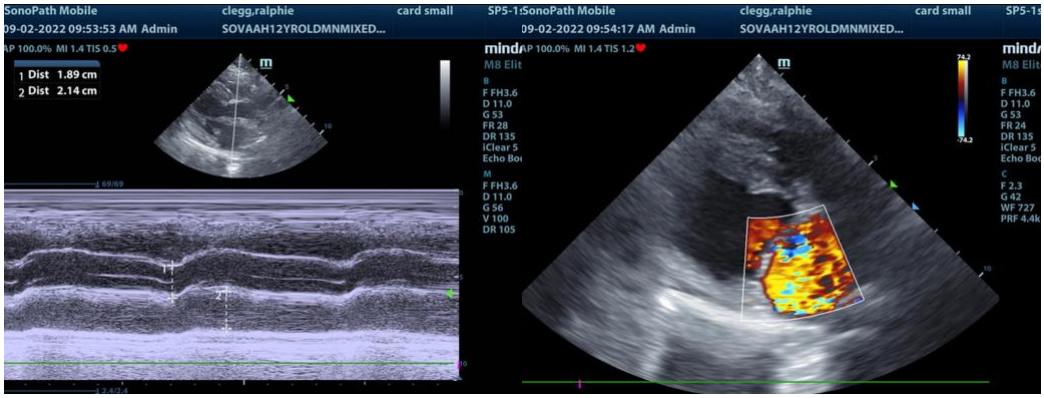

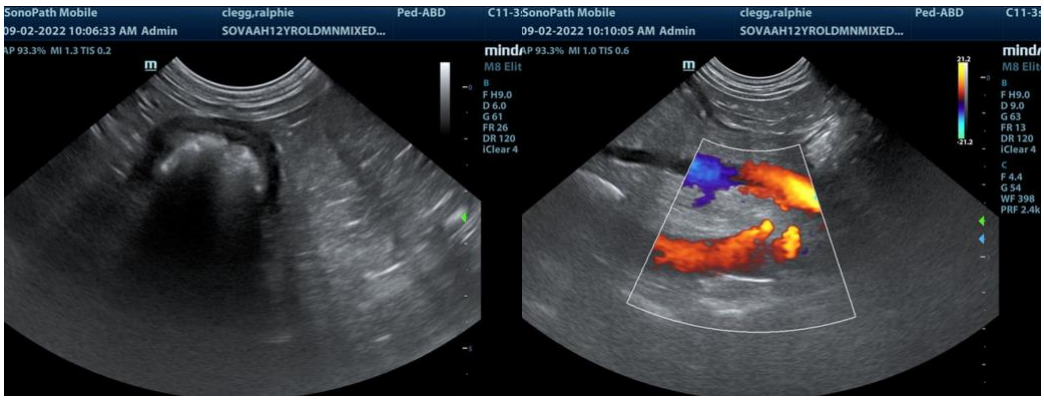

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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