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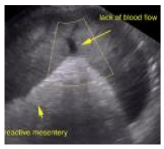
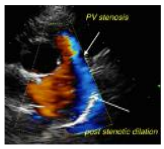
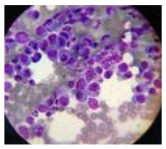
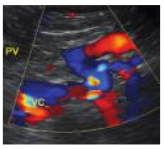

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1-800-838-4268 info@sonopath.com

PATIENT

Boozhee Camean

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Neutered Male

AGE

13 Years

WEIGHT

12.3 Pounds

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Sova AH

REFERRING VET

Dr. Robert Sova

INVOICE

17418

DATE

9/23/22

PRESENTING CLINICAL SIGNS

History: Cardiomegaly, hepatomegaly, splenomegaly, narrow trachea, chronic cough.

Abnormal PE/Chem/CBC/UA Results: Alk. Phos. 194, Na/K 26, PSL 142. USG: 1.021.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

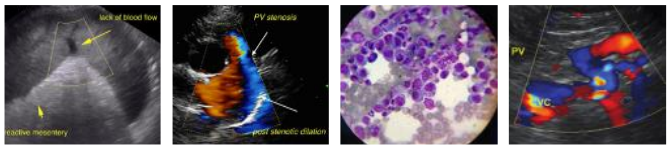
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	5.50	3.5	1.1	1.1	37	70	0.1
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (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	101	--	1.16	--	2.55	2.05	--

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 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. Minor pulmonic insufficiency was noted at 1.5 m/s. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. Trivial tricuspid insufficiency was noted at 3.5 m/s.. 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 residual prostate was uniform, measuring 0.82 cm.

An iliac **lymph node** was mildly enlarged, measuring 1.0 cm x 0.5 cm.

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. Mineralization was noted in the kidneys, nonobstructive. The largest calculus in the left kidney measured 3.0 mm. The left kidney measured 4.09 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 left adrenal gland measured 2.08 cm x 0.56 cm at the caudal pole and 0.6 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

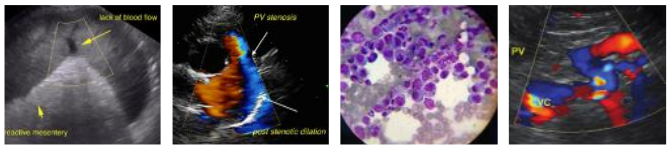
The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some moderate age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal. No overt evidence of active inflammatory, infiltrative or regenerative pathology was noted but should be paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.

Gastrointestinal

The **pylorus** was unremarkable; however, progressive thickening was noted in the gastric fundus with an annular mass noted at the gastroesophageal inlet, measuring 2.6 cm x 1.0 cm. The mass appears to have infiltrated the gastroesophageal inlet with muscularis hypertrophy in the esophagus with an expansive muscle-based mass. Leiomyosarcoma, gastronoma or similar neoplasia is suspected-endoscopy is warranted. Ultrasound guided FNA could attempt to obtain exfoliating cells, however, likely difficult given the position.

Pancreas

Diffuse hyperechoic changes were present in the area of the **pancreas**. The pancreatic remodeling was evident with multifocal to diffuse hyperechoic changes. These changes are consistent with



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fibrosis, amyloid, saponification of fat and may contain areas of low-grade chronic active inflammation especially if pain on imaging (+ Murphy sign) was present +/- focal subxyphoid palpation reveals pain response. No overt masses were noted.

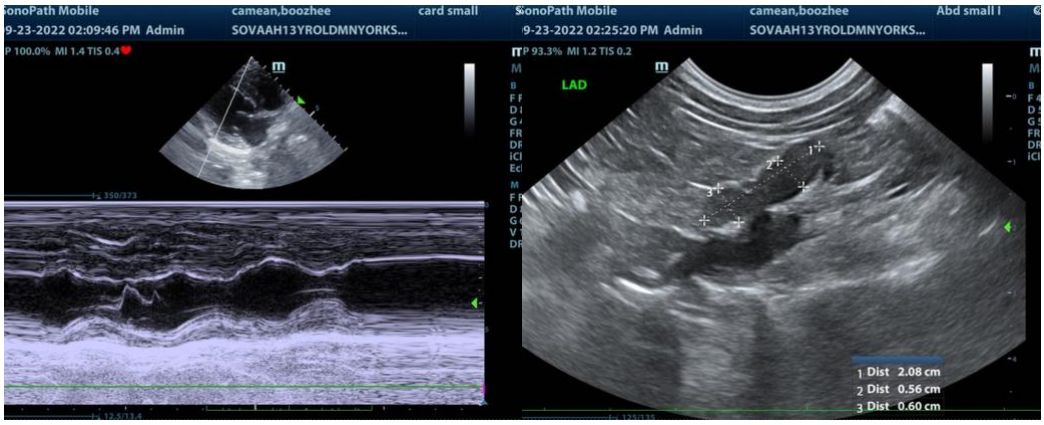
ULTRASONOGRAPHIC FINDINGS

- Mitral and tricuspid insufficiency with early pulmonary hypertension, compensated at this time
- Gastroesophageal mass
- Age-related renal changes with nonobstructive nephrolithiasis
- Age-related hepatic changes
- Pancreatic fibrosis
- Mildly enlarged iliac lymph node

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No cardiac medications are recommended. However, blood pressures should be monitored carefully. Regarding the gastroesophageal mass, leiomyosarcoma, gastronoma or similar neoplasia is suspected-endoscopy is warranted. Ultrasound guided FNA could attempt to obtain exfoliating cells, however, likely difficult given the position. The cough may be related to reflux owing to the gastroesophageal pathology.

The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflo maintenance or similar protocol if anesthesia is desired. Blood pressure recommended if not already performed and target white coat negative systolic pressure of < 160 mmHg. If higher than this ACE-inhibitor is suggested to reach this level. Recheck echocardiogram is recommended in 6 months, earlier if murmur grade increases or clinical signs initiate.



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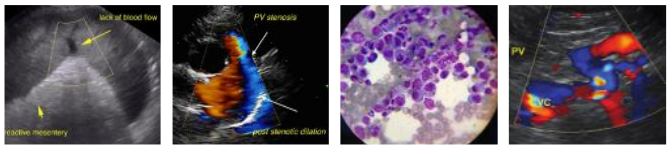

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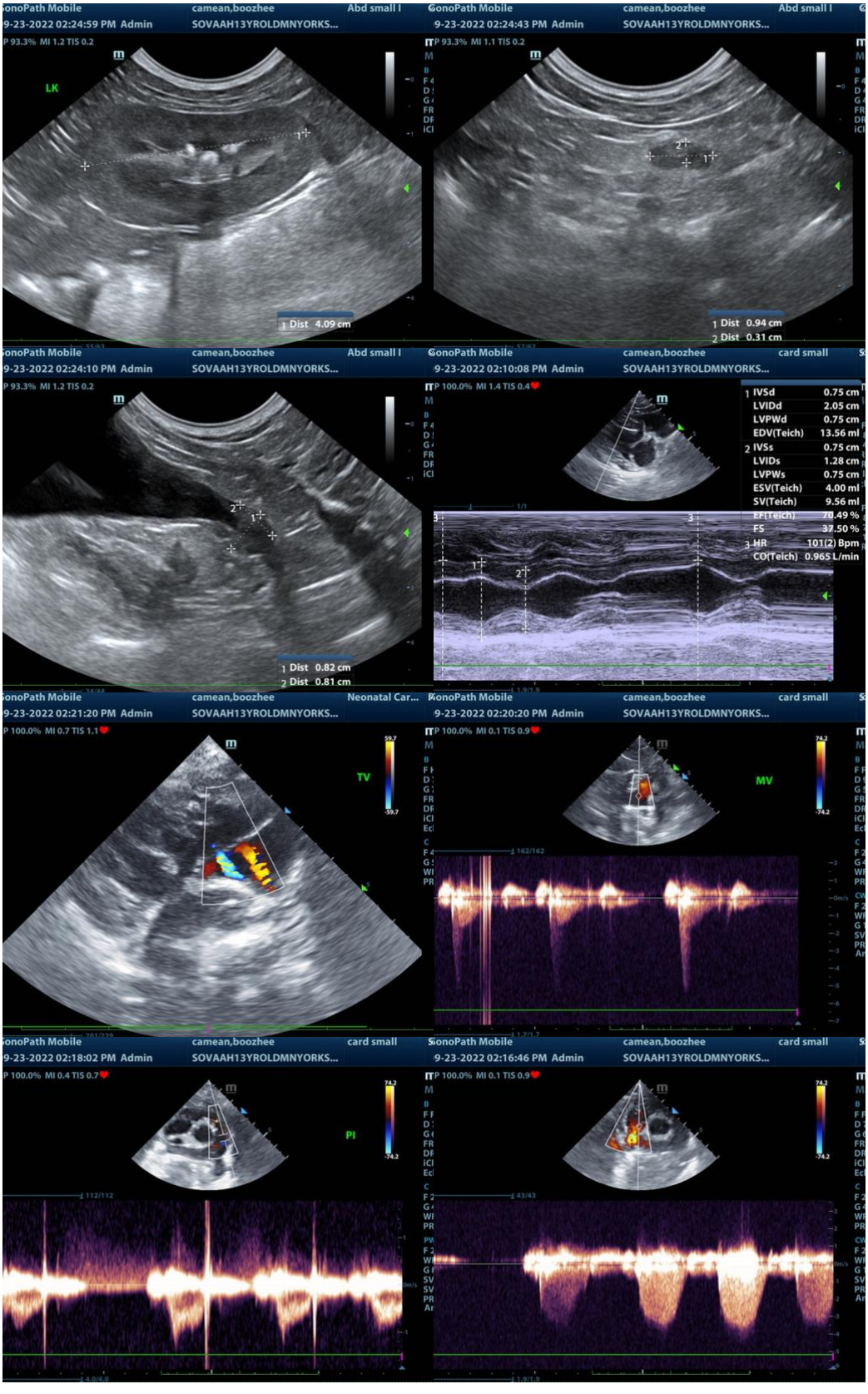

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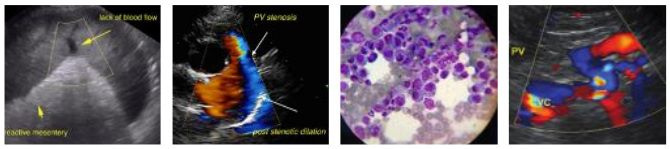

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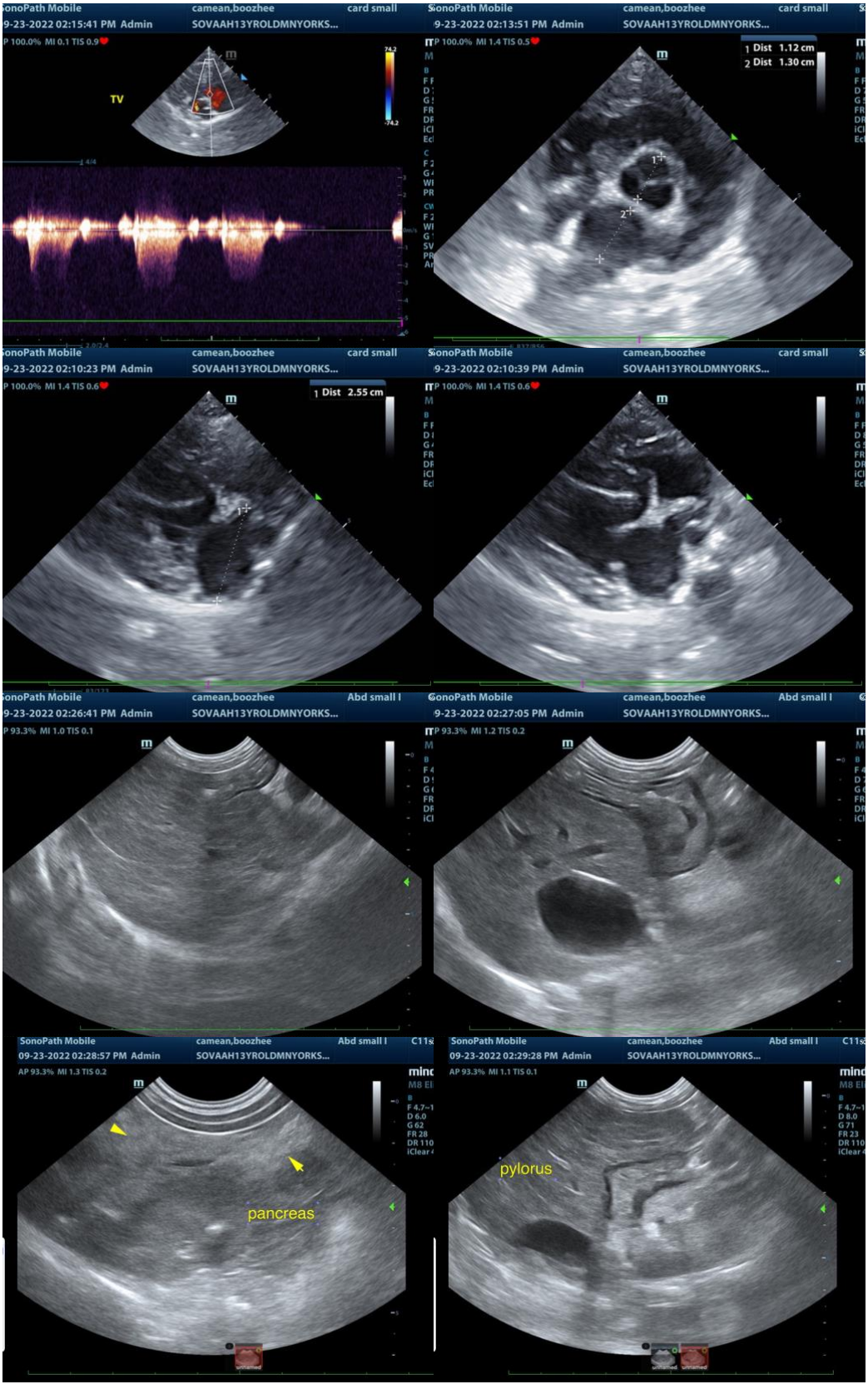

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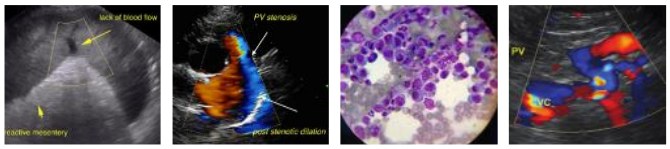

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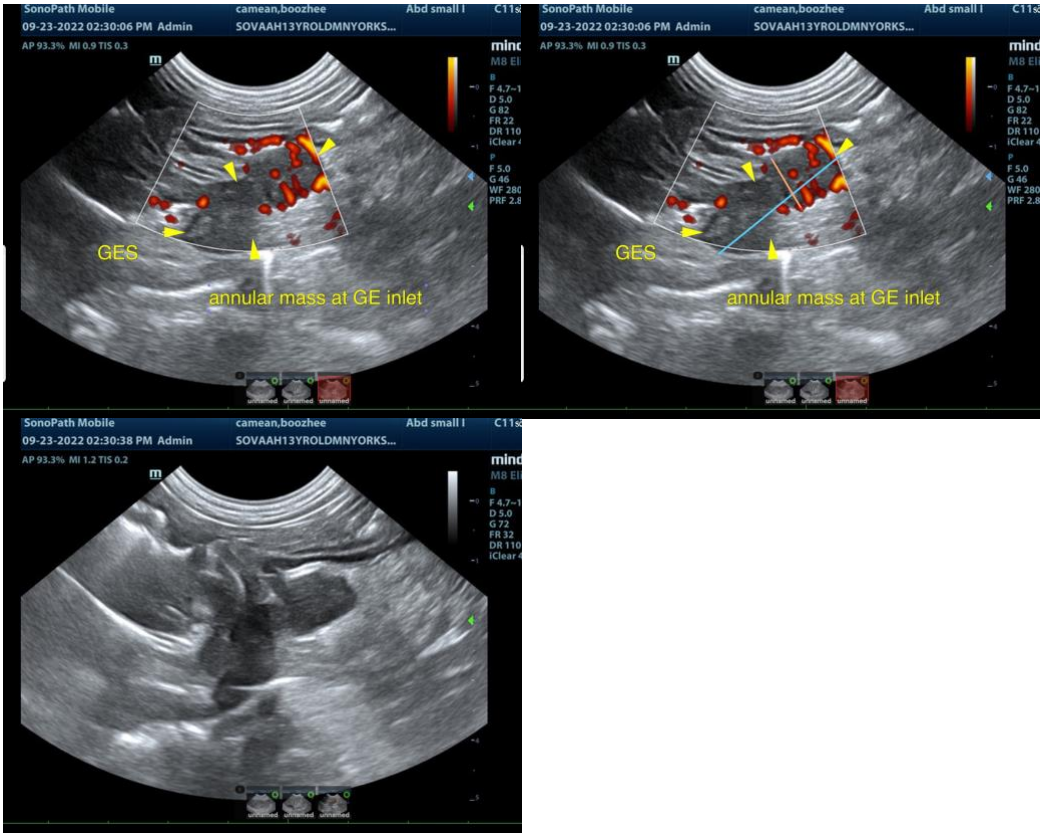

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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