



PATIENT PRESENTING CLINICAL SIGNS

Riot Anli Anorexic weight loss previous echo 8/12/21 Invoice 20528. Echo 48 images ab study 32 total 80 images. Patient is bloated. Patient is also dyspneic and easily compromised cardiovascularity. Marked elevation of SDMA Urea phos ALT ALKP Amylase and lipase

SPECIES

Canine

BREED

Miniature Pinscher

SEX

Spayed Female

AGE

13 years

WEIGHT

2.8 kg

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Belan

HOSPITAL NAME

Signal Hill AH

REFERRING VET

Dr. Sweet

INVOICE

94985

DATE

1/4/22

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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 was noted. Ureteral papillae were normal.

The **kidneys** revealed moderate degenerative changes with multi-focal cortical cysts. Echogenic cortical remodeling and mineralization was noted. The right kidney measured 3.54 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 0.44 cm at the cranial pole and 0.32 cm at the caudal pole.

Spleen

The **spleen** was folded upon itself. Minor, heterogenous 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.

Gastrointestinal

The upper **gastrointestinal** tract revealed mucosal fogging and remodeling. A portion of the jejunum was particularly thickened for approximately 2.0 x 1.0 cm. This area should be monitored for progression as early loss of mural detail was noted. The colon presented mucosal thickening and remodeling.



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Pancreas

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The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

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ULTRASONOGRAPHIC EXAMINATION OF THE HEART

SEX

Spayed Female

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The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The **mitral** valve was mildly thickened. Trivial mitral valve insufficiency was noted with minor vegetative changes. Minor eccentric mitral regurgitation 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.

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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	<1.6	28-40	40-100	<0.6
PATIENT			NM	1.48	55	88	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	114	1.0	1.23	2.8	2.27 max	1.61	



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ULTRASONOGRAPHIC FINDINGS

Moderate degenerative renal changes with polycystic cortices.

Chronic GI and pancreatic changes with colitis pattern.

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Otherwise, geriatric abdomen.

Very early stage B1 valvular disease, not clinically significant.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There was no overt evidence of neoplasia. However, emerging intestinal neoplasia is a potential. I am concerned about the long term viability of the kidneys as they appear subjectively 50-60% compromised. History of chronic active pancreatitis and hepatitis is likely in this patient given the level of remodeling.

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B1: The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflurane 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. No cardiac medications are recommended at this time.

AGE

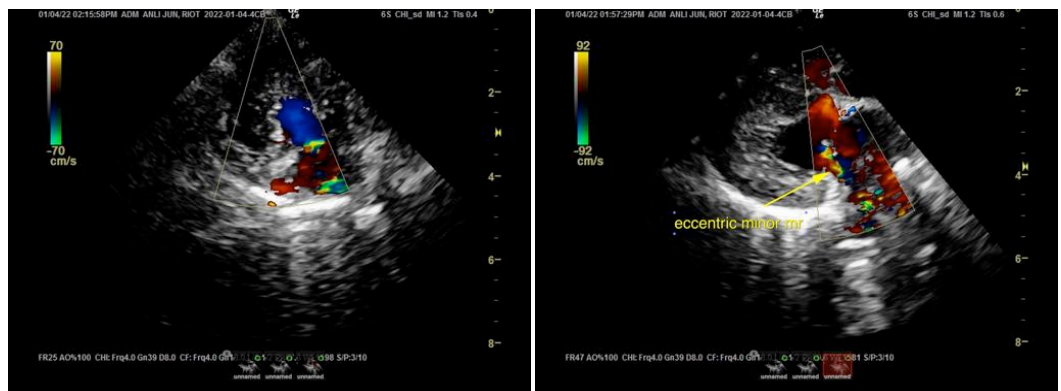
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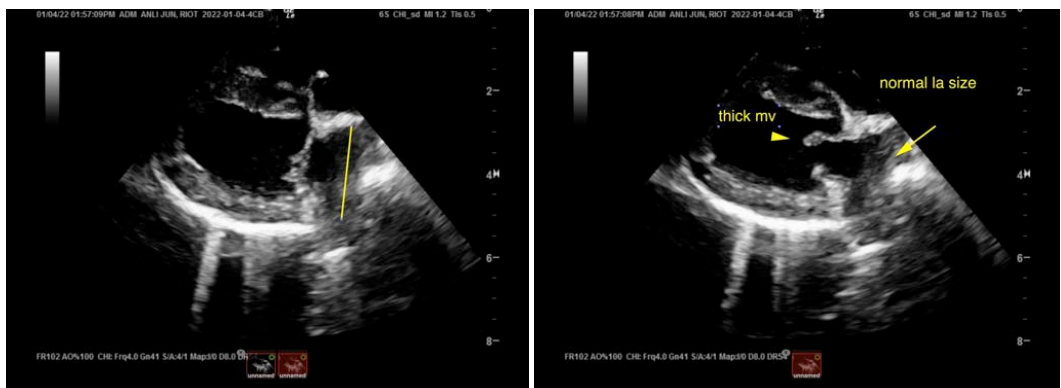


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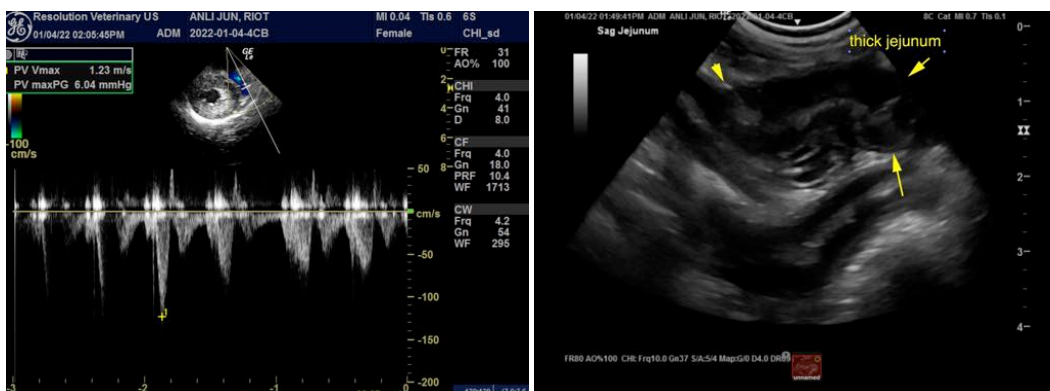
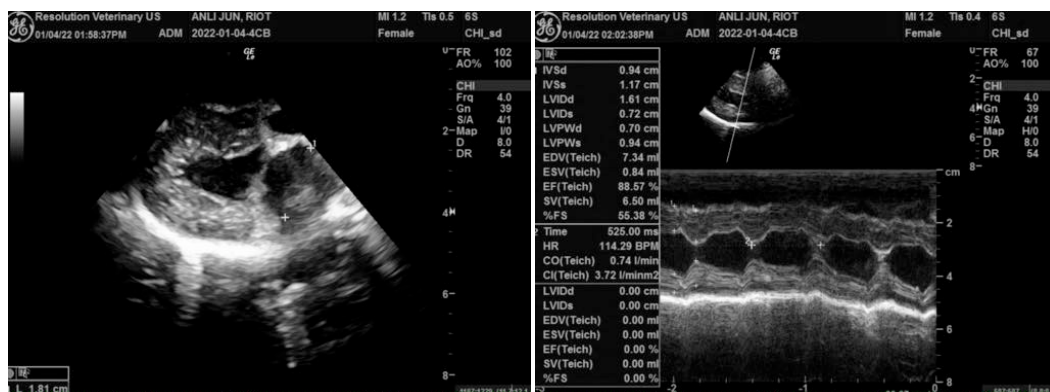
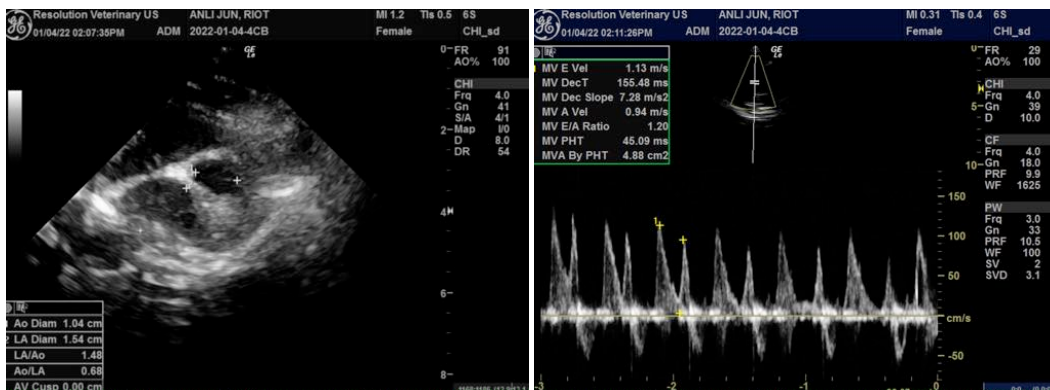
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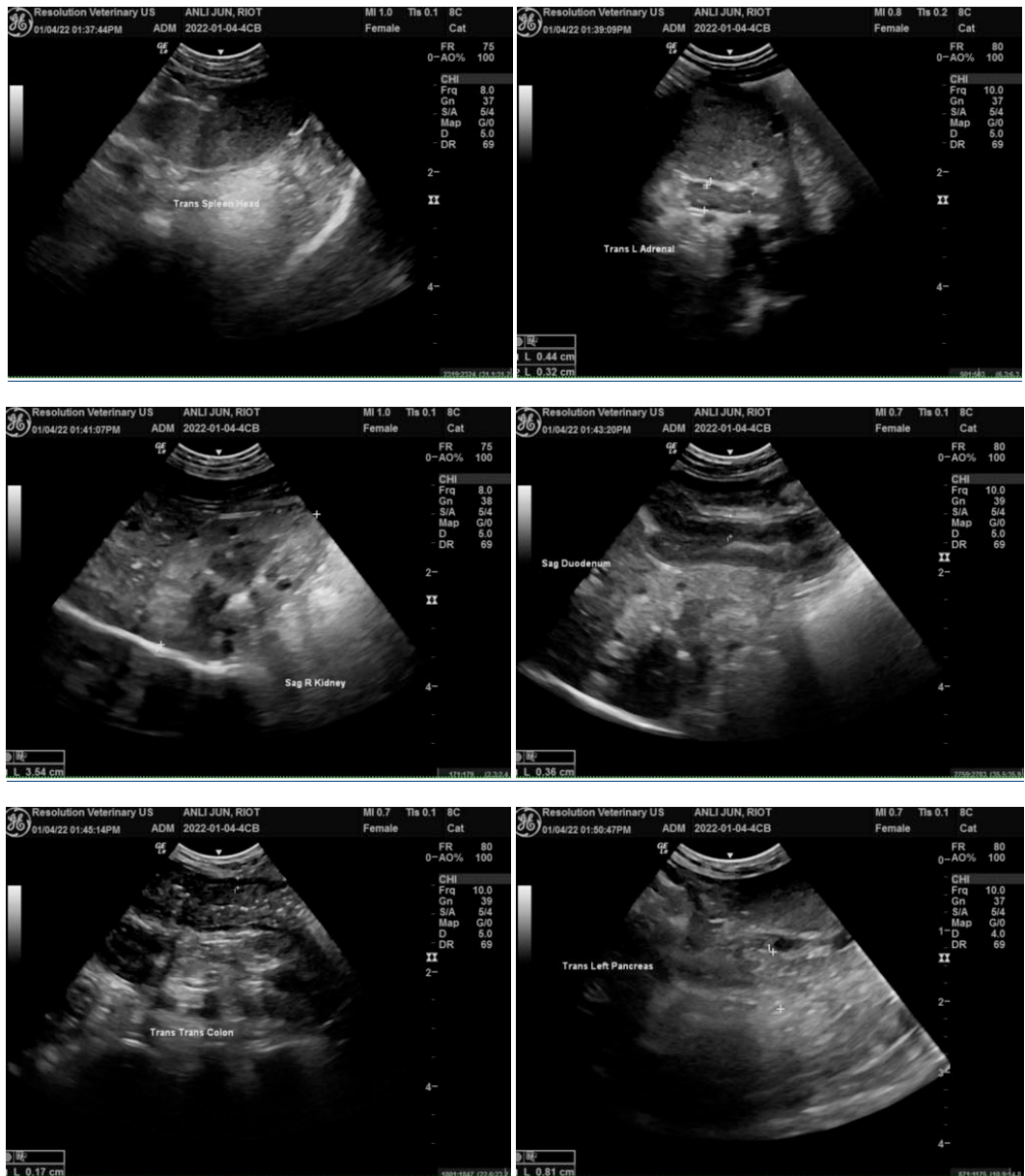
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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