

PATIENT PRESENTING CLINICAL SIGNS

Niko Turner
History: P presented on 1/4/23 for a seizure. The owners were concerned that Niko had gotten into compost the night before. He was acting "off" and lethargic prior to and following the seizure. He was also inappetent the morning after the seizure. On exam Niko was BAR, with no neurologic signs. Niko was seen again the following day and SQ fluids, pain medication and bland diet were started for pancreatitis. A painful, distended abdomen was noted at that time. Niko has continued to have signs of pain, lethargy and inappetence. Current Medications Tramadol, Gabapentin, Cerenia Primary Question/Differential to Be Answered in This Exam r/o causes of elevated pancreatic enzymes, pain, and neurologic episodes - Pancreatitis, hepatitis, neoplasia, open

Canine
Abnormal PE/Chem/CBC/UA Results: Done 1/4/23: Elevated PSL (6000); Amylase (7140) and ALP (831); severe mature neutrophilia; UA unremarkable

Yorkshire Terrier Mix

SEX ULTRASONOGRAPHIC EXAMINATION OF THE HEART

Neutered male
The **echocardiogram** presented a prominent **right heart** with mild **right ventricular** hypertrophy, without significant **tricuspid** regurgitation, and normal **right atrial** size. No evidence of neoplasia was noted in the right auricle, or elsewhere in the heart. The **pulmonary artery** was uniformly prominent with mildly depressed pulmonic velocity measured on PW Doppler. No overt heartworms were noted in the main or visible deep pulmonary arteries. Yet, theoretically heartworms could be present in the deep pulmonary vasculature out of visible sonographic range. More likely, however, this prominent right heart is due to excessive intra-thoracic pressures caused by chronic respiratory disease or potentially excessive intra-thoracic fat (Pickwickian syndrome). The **left ventricle** presented concentric hypertrophy. This may be owing to volume contraction. There was no evidence of left-sided failure or clinical cardiac disease at this time. Contractility was functionally adequate demonstrated by the FS% measurement. Trivial **mitral valve** insufficiency was noted. There was no significant **left atrial** dilation noted. The **left ventricular outflow** demonstrated normal flow patterns and velocities through the aortic valve. The left lateral thorax revealed a 1.35 cm lung nodule. There were also areas of lung consolidation. The hepatic veins were noted dilated. Slight pleural effusion was noted in the thorax.

INTERPRETED BY

Eric Lindquist, DMV,
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

West Eugene AH

REFERRING VET

Dr. Sundholm

DATE

1/9/23

Invoice
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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			1.09	1.02	48	83	0.1
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	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	136	1.3	0.83	17.5 lbs	1.71	1.46	



PATIENT

Niko Turner

SPECIES

Canine

BREED

Yorkshire Terrier Mix

SEX

Neutered male

AGE

11 years

WEIGHT

17.5 lbs

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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 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. The left kidney measured 4.46 cm. The right kidney measured 4.6 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.

Spleen

The **spleen** was folded upon itself cranially and caudally with generalized enlargement. The parenchyma was uniform.

Liver

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Mild, multi-focal, hypoechoic nodular changes were noted. Swollen, irregular contour was present. Some 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

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.



PATIENT *Pancreas*

Niko Turner

The **pancreas** revealed mixed, hypoechoic, irregular parenchyma with hyperechoic, irregular surrounding omentum. This is consistent with chronic active pancreatitis, likely regions of necrosis. There is a potential of underlying carcinoma.

SPECIES

Canine

ULTRASONOGRAPHIC FINDINGS

BREED

Yorkshire Terrier Mix

Cor pulmonale type presentation as well as non-cardiogenic pleural effusion.

Extensive, pancreatitis, pancreatic necrosis pattern with undefined nodular hepatic changes.

SEX

Neutered male

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

AGE

11 years

There is a strong concern for a dual cavity neoplastic process such as pancreatic carcinoma or possible metastatic spread to the liver and thoracic effusion. There were no metastatic changes noted. FNA of the liver nodules, pancreas, pleurocentesis and cytopsin are all indicated +/- chest CT. The prognosis is extremely guarded. Pleuritis secondary to pancreatitis is possible.

WEIGHT

17.5 lbs

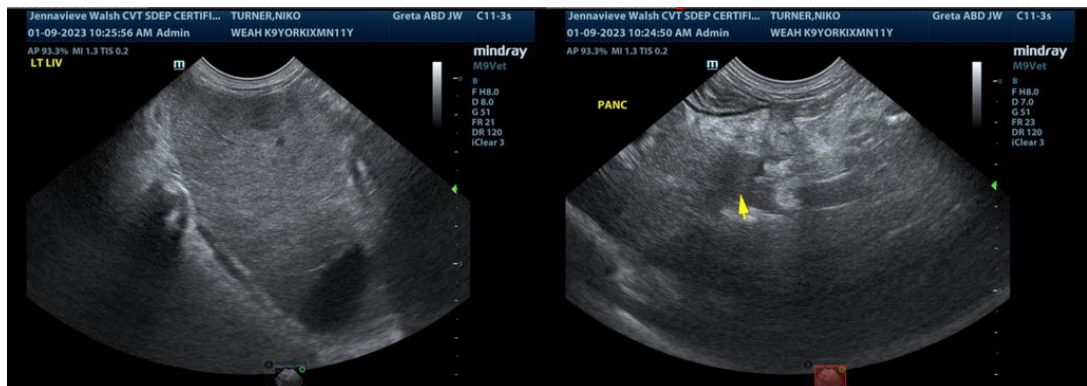


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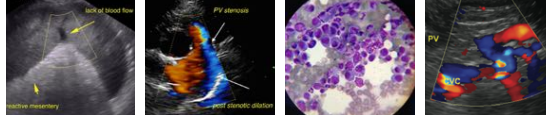
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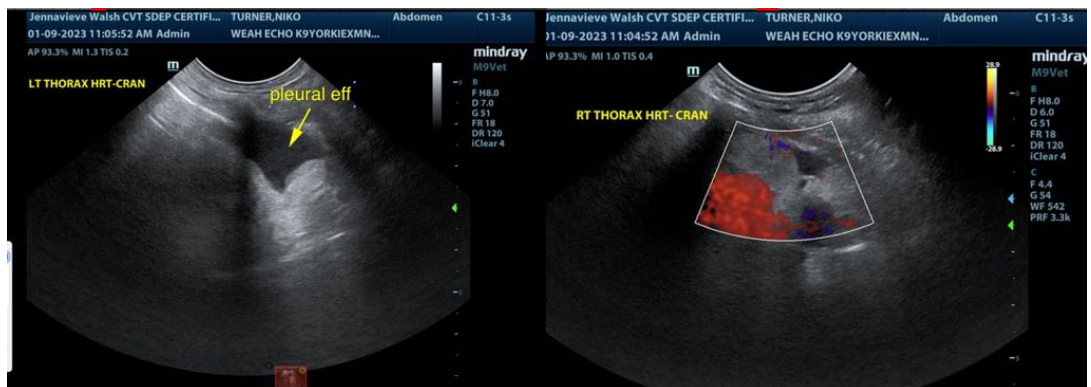
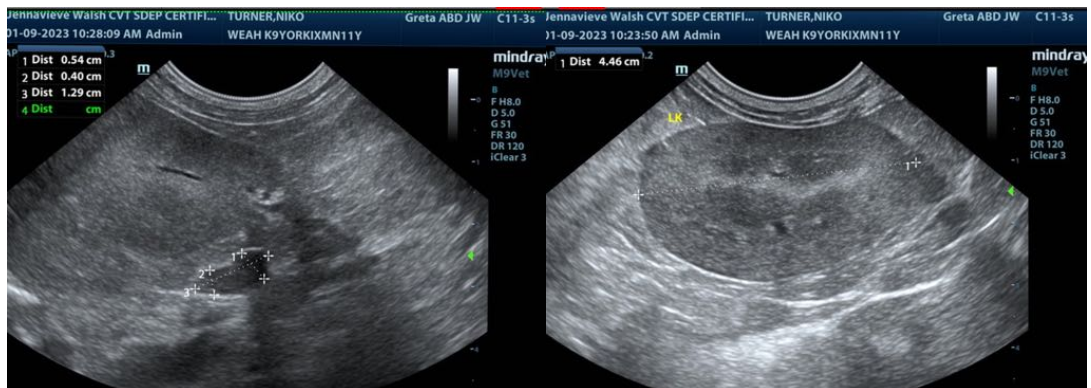
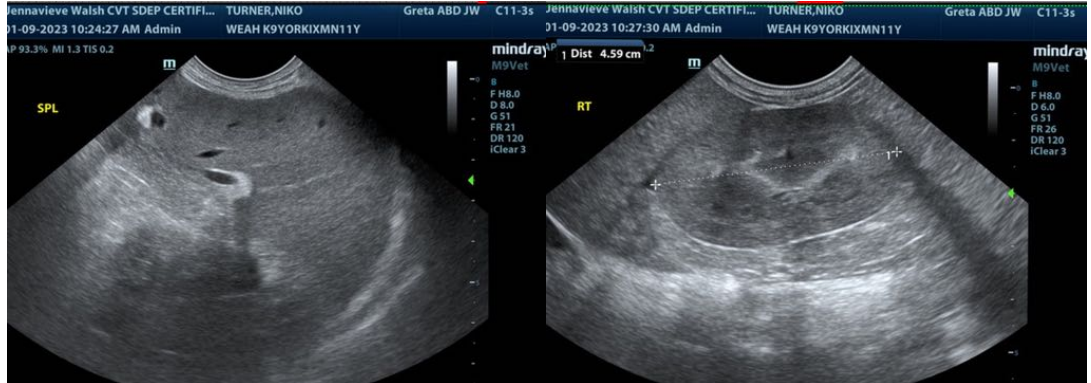
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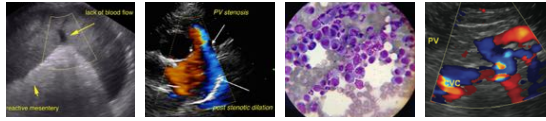
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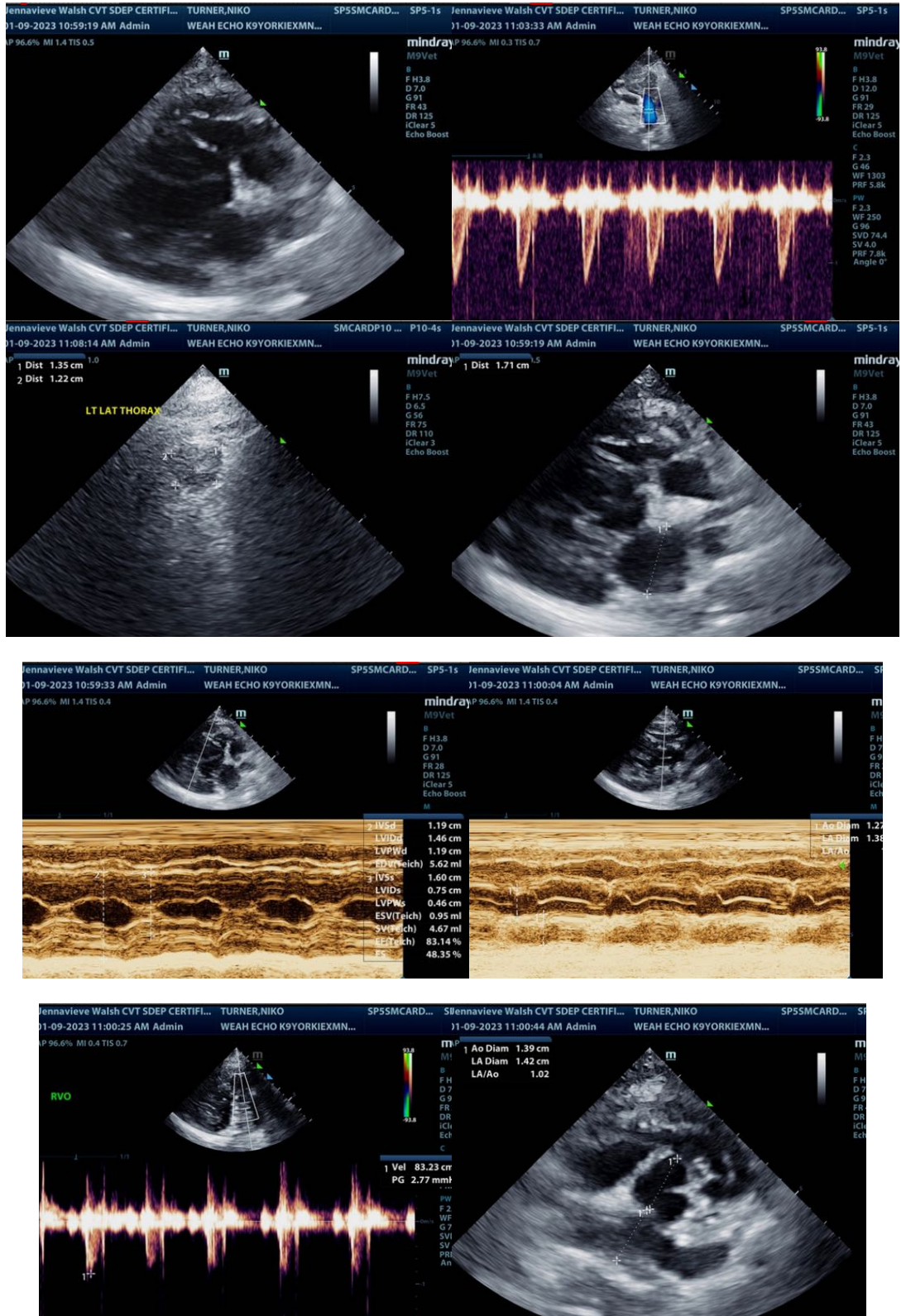
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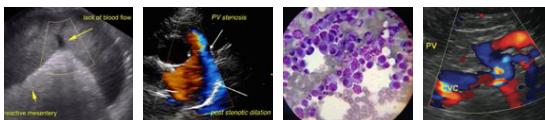
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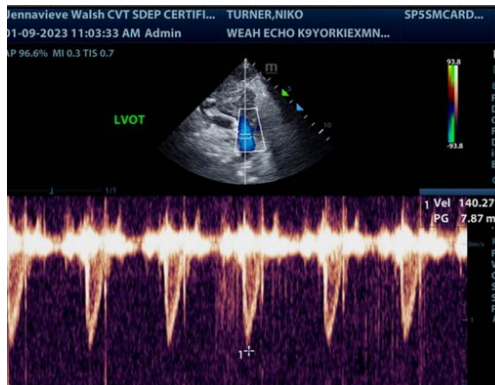
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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