



PATIENT

Bear Vandetta

SPECIES

Canine

BREED

Tree Walker Hound

SEX

MN

AGE

8 years

WEIGHT

61.3 lbs.

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP
(Canine and Feline)

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

Faithful Friends AC

REFERRING VET

Dr. Hiett

INVOICE

16460

DATE

3/28/23

PRESENTING CLINICAL SIGNS

Dog has been having intermittent vomiting for ~3 months. Will no longer eat dry food. Decreased appetite overall and only eats canned food. Weight loss. Stool is semi-formed to soft and runny. Recently the dog developed a cough. Abdomen is tense and painful. There is pleural fluid present and recent edema on the ventral sternum. Pleural fluid has TNCC 0.87 with no RBC's and no granulocytes. TP of chest fluid 4.0 Current Medications Furosemide 75 mg q 6 hours since last night. Radiographic Findings Pleural effusion and difficult to obtain cardiac silhouette. Abdominal structures also have poor detail suggestive of ascites. Primary Question/Differential to Be Answered in This Exam What is cause of vomiting, weight loss, and fluid buildup. Is this an odd GI foreign body presentation or neoplasia??

Abnormal PE/Chem/CBC/UA Results: CBC, Profile, spec cPL, T4 all WNL with exception of Total Protein 4.8 and Albumin 2.3 (WBC = 13.5 PMN's 11.1)

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		2.0		1.0	27	54	0.4
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	116	0.8	0.6		3.1	3.0	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal to mildly subnormal **left atrial** size based on 2 separate methods of LA evaluation. No evidence of significant LA enlargement was noted. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. No overt MR was noted on Doppler. 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 mild subnormal yet likely adequate as evidenced by the



PATIENT	fractional shortening measurement and subjective evaluation of the different regions of the myocardium. No evidence of DCM criteria was noted. 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. Mild TR was present in Doppler. No evidence of clinical pulmonary hypertension was noted. 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 free fluid was visualized. Moderate volume free pleura fluid was present. No overt pericardial, extra-cardiac or cranial mediastinal masses were visualized in the visible window.
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SEX	Urinary System
MN	The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.
AGE	
8 years	
WEIGHT	The residual prostate was free of overt pathology.
61.3 lbs.	No evidence of medial Iliac or sublumbar lymphadenopathy/masses was noted.
INTERPRETED BY	Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 6.6 cm in length. The right kidney measured 6.6 cm in length.
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	
IMAGING PERFORMED BY	Adrenal Glands
Jenna Walsh, CVT	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 2.6 cm length x 0.81 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 2.0 cm length x 0.51 cm width at the caudal pole.
HOSPITAL NAME	Spleen
Faithful Friends AC	The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.
REFERRING VET	
Dr. Hiett	
INVOICE	Liver/ Gallbladder
16460	The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. Normal hepatic vascular volume was noted. No
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evidence of hepatic congestive criteria was noted. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. No evidence of gallbladder wall edema was noted. The cystic and common bile ducts were normal.

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Gastrointestinal

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Tree Walker Hound

The stomach presented moderate wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. The stomach contained a mild amount of retained nonshadowing echogenic ingesta and mild luminal gas. The gastric body wall width measured 0.72 cm.

SEX

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The small intestine presented intact generalized wall layering with subjective propensity for possible mild prominent segmental duodenojejunal mucosa with indistinct increased segmental duodenojejunal mucosal echogenicity to mucosal fogging. No evidence of small intestinal obstructive pattern or visualized intestinal masses was noted.

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8 years

Normal visible colon wall layers were present with semi-formed fecal matter, consistent with patient history.

WEIGHT

61.3 lbs.

Pancreas

The pancreas base and right pancreatic limb exhibited subtle prominent size with mild asymmetrical to swollen capsule contour and mildly nonhomogeneous hypoechoic parenchyma compared to the adjacent peripancreatic hyperechoic omentum.

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R. McKenzie Daniel,
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(Canine and Feline)

Free Abdomen

Moderate volume peritoneal effusion with generalized, primarily uniform hyperechoic omentum was present. Suspect intermittent mild likely benign / reactive mesenteric lymph nodes were noted. No omental masses were visualized.

IMAGING PERFORMED BY

Jenna Walsh, CVT

ULTRASONOGRAPHIC FINDINGS

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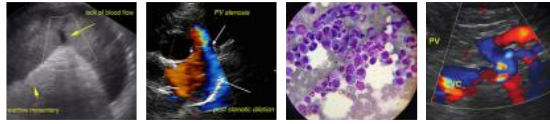
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- Normal cardiac structure with borderline decreased LV contractility
- Noncardiogenic bicavitary effusion
- Non-congestive liver
- Gastritis pattern, potential for gastric mural edema
- Intact small intestinal walls exhibiting segmental duodenojejunal mild mucosal hyperechogenicity / mucosal fogging
- Mildly prominent to swollen nonhomogeneous pancreas base / right pancreatic limb - pancreatic edema, potential for low-grade pancreatic inflammation



PATIENT	<u>INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS</u>
Bear Vandetta	Given the gastrointestinal signs and weight loss in this patient in combination with subnormal serum protein levels, protein-losing enteropathy may be a primary differential diagnosis in this case with potential for inaccurate serum protein levels, given the possibility of decreased intravascular volume.
SPECIES	
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BREED	
Tree Walker Hound	Given no evidence of overt cardiomyopathy or hepatic congestion as a contributing factor, increased vascular permeability, decreased hydrostatic pressure, and nonobvious neoplasia are all potentials.
SEX	
MN	Although potential for minor pancreatic inflammation is possible, the pancreatic presentation was not consistent with significant pancreatic pathology as a primary clinical player in conjunction with normal Spec cPL. Although additional sampling is required for a definitive diagnosis, some or all of the protocol may be considered empirically. A guarded prognosis is indicated.
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WEIGHT	OBJECTIVE: keep albumin levels > 2 g/dl, avoid thromboembolism and cavitory effusions, monitor concurrent PLN (Wheaton Terrier PLE/PLN) and liver disease:
61.3 lbs.	Plasma 10 mL / kilogram IV over 4 hours Or Human albumin 2 ml/kg/h over 10 hours. Total daily volume 20.l/kg/day
INTERPRETED BY	And Colloids/Hetastarch
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	10 to 20 mL per kilogram per day and dogs 10 to 15 mL per kilogram per day cats (Can bolus first 1/3 of dose over 15 minutes) & maintain on LRS maintenance otherwise.
IMAGING PERFORMED BY	Metronidazole (10-20 mg/kg po bid) Famotidine 1 mg/kg lv 1m po dc Sid /bid Sucralfate 0.5-1 g po tid dogs, 0.5 g bid cats in slurry Or Misoprostol 1-5 ug/kg po tid
Jenna Walsh, CVT	Diet: Highly digestible high quality protein, low fiber, low fat diet (< 15% of dry matter). Hydrolyzed protein or novel protein. Purina HA or Royal Canine HP or similar.
HOSPITAL NAME	Prednisone or prednisolone 2 mg/kg bid x 3-5 days then 2 mg/kg sid. Chlorambucil in refractive severe IBD/alimentary lymphoma cases (monitor cbc for rare bone marrow suppression) 4 mg/m ² Q 24-48 hours.
Faithful Friends AC	Cobalamine (B12) 250-1500 ug/dog weekly x 6 weeks. Calcium supplementation if necessary.
REFERRING VET	Aspirin 0.5-1 mg/kg/day or Clopidrel (Plavix) 1-5 mg/kg/day.
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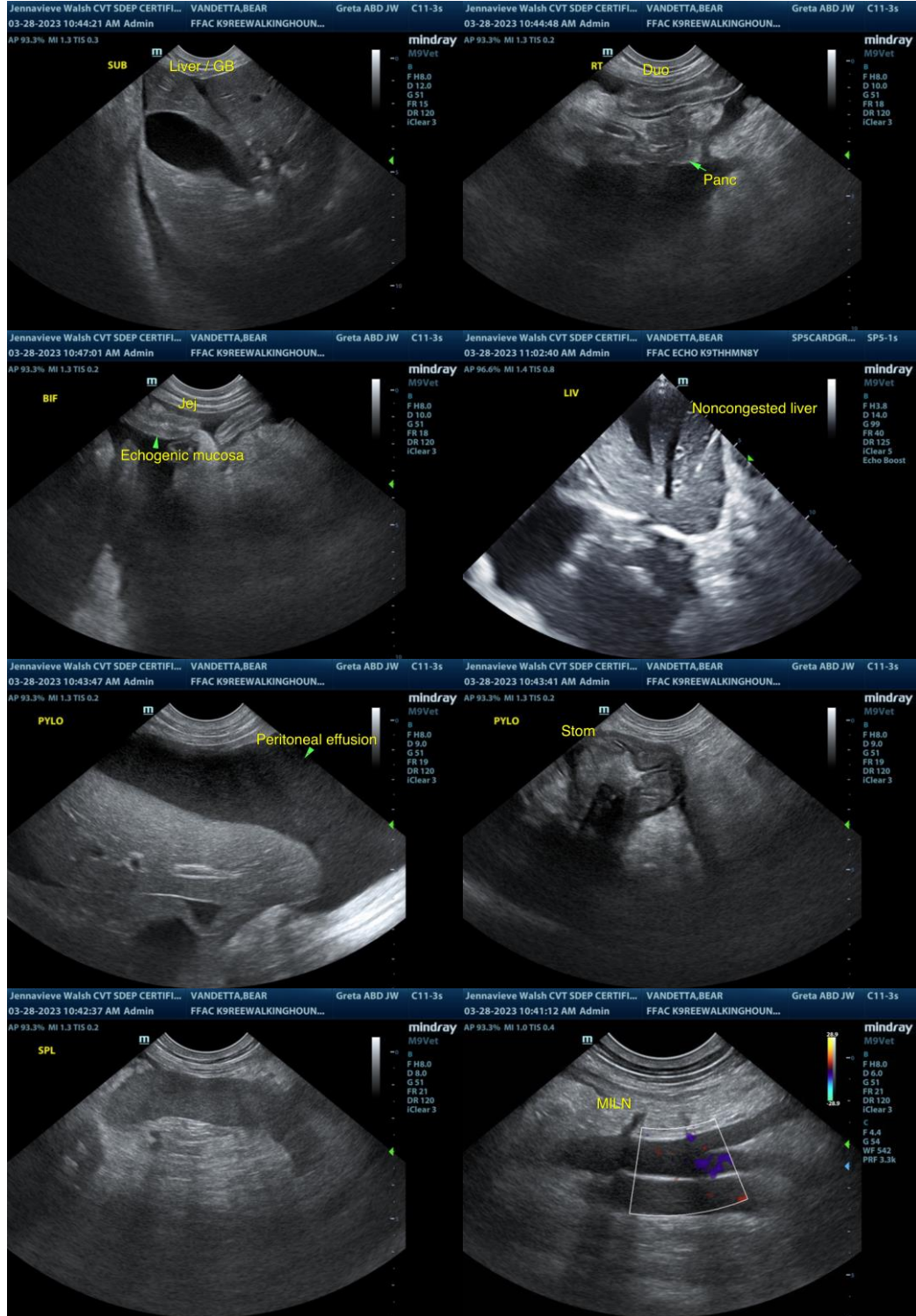
Dr. Hiett

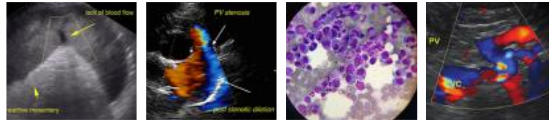
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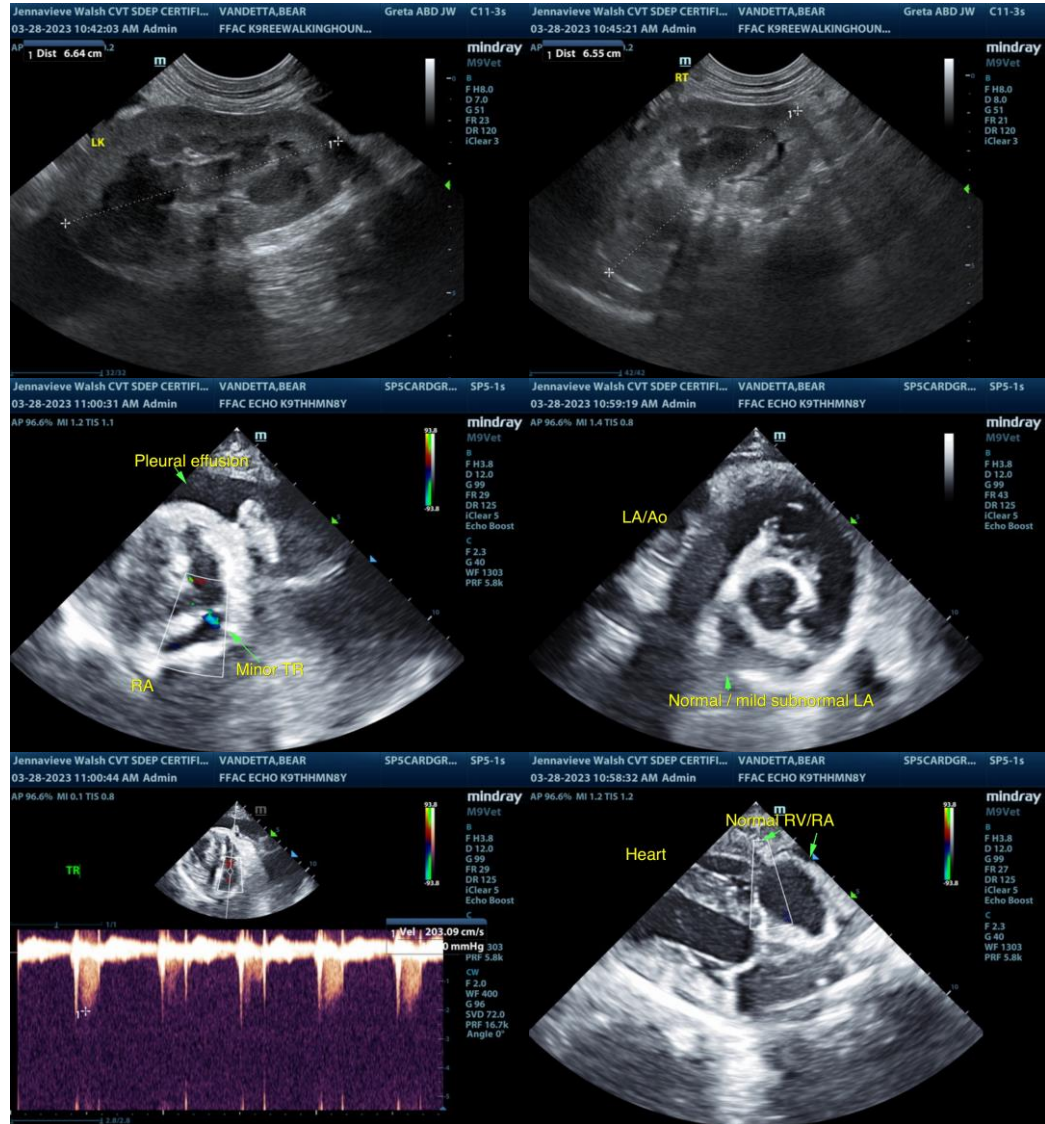
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com