



PATIENT PRESENTING CLINICAL SIGNS

Kodi Felix History: anorexia, increased water consumption, malodorous breath Primary Question/Differential to Be Answered in This Exam R/O diet intolerance (O switching food recently), nutritional (PLE, PLN), behavioral, infectious, inflammatory, neoplasia, toxin

SPECIES

Canine Abnormal PE/Chem/CBC/UA Results: Unremarkable blood work but attached

BREED

Heeler

SEX

Intact Male

AGE

6 Years

WEIGHT

41.4 Pounds

INTERPRETED BY

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

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	--	--	--	1.3	31	62.4	0.2
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	NM	1.0	1.5	--	2.9	2.9	--

IMAGING PERFORMED BY

Jenn Walsh, CVT

HOSPITAL NAME

Reid VH

REFERRING VET

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Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. No overt MR. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented overall normal echogenicity without evidence of fibrotic or ischemic disease. **Contractility** of the ventricular walls was borderline subnormal yet subjectively adequate as 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. Normal LVOT velocity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of tamponade or overt right atrium/auricle masses. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. No overt TR. 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). Normal RVOT velocity. Minor volume pericardial free fluid, along with mild to possible moderate volume free pleural



PATIENT fluid was noted. Mild irregular non-homogenous mass was present in the area of the heart base, measuring approximately 4.6 cm x 3.5 cm.

Kodi Felix

SPECIES *Urinary System*

Canine

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 were noted. Aortic trifurcation is normal.

BREED

Heeler

The prostate gland was of expected size and present for an intact male canine yet consistent with mild benign prostatic hyperplasia. No evidence of prostatic neoplastic criteria.

SEX

Intact Male

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 5.7 cm in length. The right kidney measured 5.9 cm in length.

AGE

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Adrenal Glands

WEIGHT

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The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 2.5 cm in length x 0.38 cm width at the caudal pole.

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The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 2.5 cm length x 0.48 cm width at the caudal pole.

Spleen

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The spleen was normal in size and overall contour. Mild generalized splenic parenchyma heterogeneity was noted. No splenic masses or nodules were noted.

Liver

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The liver exhibited potential for mild enlargement. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion.

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The gallbladder was non distended in size with mild nondependent mildly echogenic, nonorganized debris. The gallbladder and peripheral gallbladder were otherwise sonographically unremarkable. The cystic duct and common bile ducts were normal without evidence of dilation. This is likely incidental, suspected to be secondary to anorexia in this patient.

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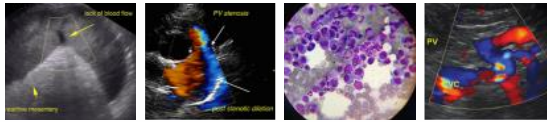
Gastrointestinal

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The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

The small intestine exhibited primarily intact wall layering with maintained 1:3 muscularis/mucosa ratio. Segmental intestine exhibited moderate mural hypertrophy, decreased mural echogenicity and loss of



PATIENT discernable wall layering with minor associated metabolic to paralytic ileus, measuring approximately 7-8 cm in length with wall width up to 1.0 cm. By comparison, normal appearing small intestine measured 0.35 cm wall width. No overt evidence of peritoneal free fluid.
Kodi Felix

SPECIES Normal visible colon wall layers were present with apparent formed feces in lumen.

Canine **Pancreas**

BREED The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.
Heeler

SEX **Free Abdomen**
Multifocal, variably sized, yet hypoechoic to swollen mesenteric lymph nodes were present. The lymph nodes exhibited symmetrical to rounded margination with abnormal width: length ratio (>0.5). The enlarged lymph nodes were bordered by echogenic to reactive mesentery. An example measured 5.9 cm length and 3.7 cm.

AGE
6 Years

WEIGHT The left and right testicles were sonographically normal.
41.4 Pounds

ULTRASONOGRAPHIC FINDINGS

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- Heart base mass
- Minor volume pericardial and mild to moderate volume pleural effusion
- Segmentally thickened small bowel, exhibiting loss of discernable wall layering- consistent with emerging intestinal mural mass
- Variably enlarged hypoechoic to swollen mesenteric lymph nodes
- Periintestinal/perilymphatic hyperechoic mesentery

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Unfortunately, the sonographic findings in both the echocardiogram and abdominal study are most consistent with multicentric neoplastic criteria, such as multicentric lymphoma versus other round cell neoplasia, sarcoma or other. Correlation with pending lymph node cytology and potential for oncology consult and possible chemotherapeutic intervention is recommended. An unfavorable prognosis is likely. Indicated.

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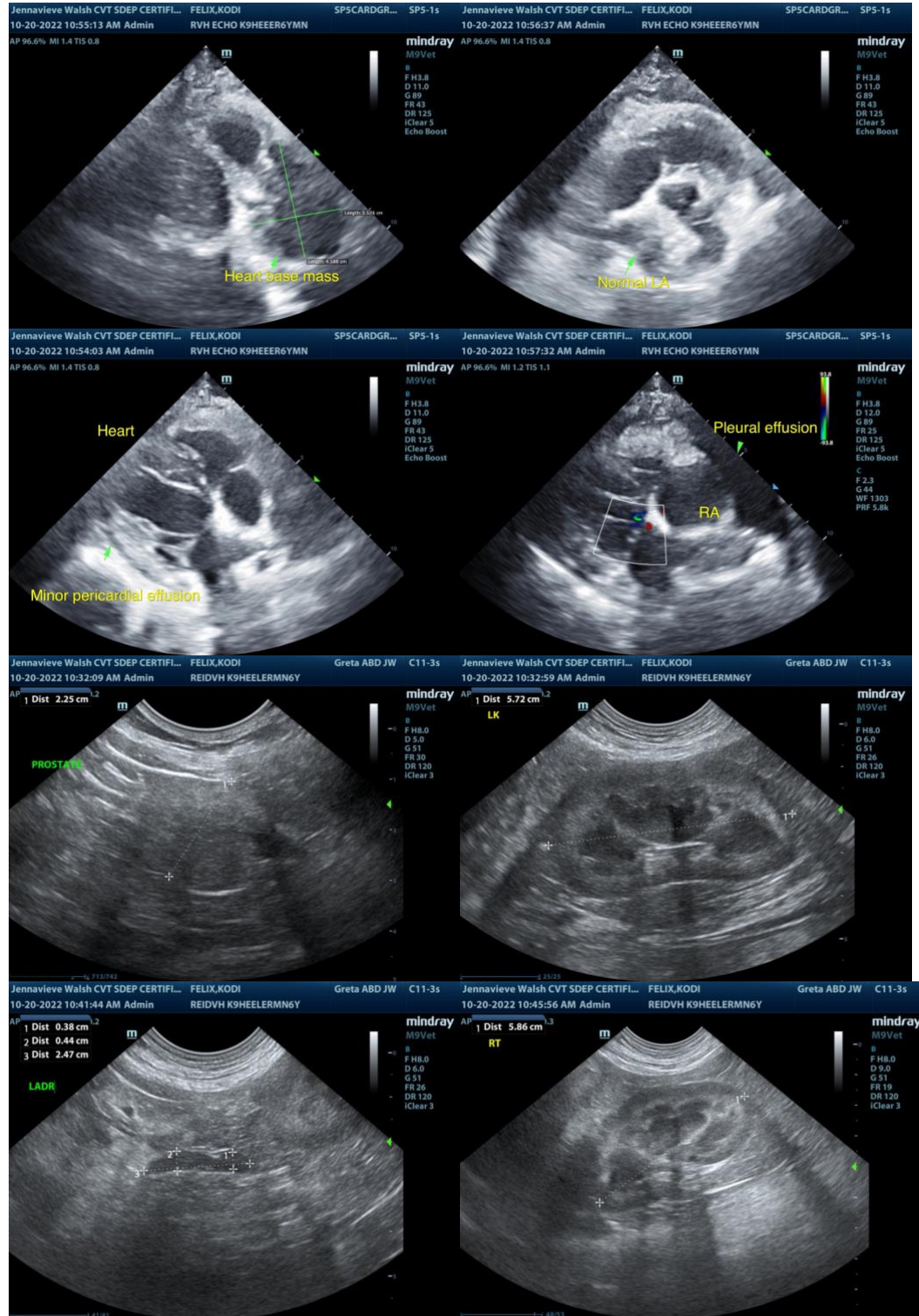
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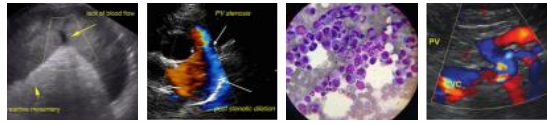
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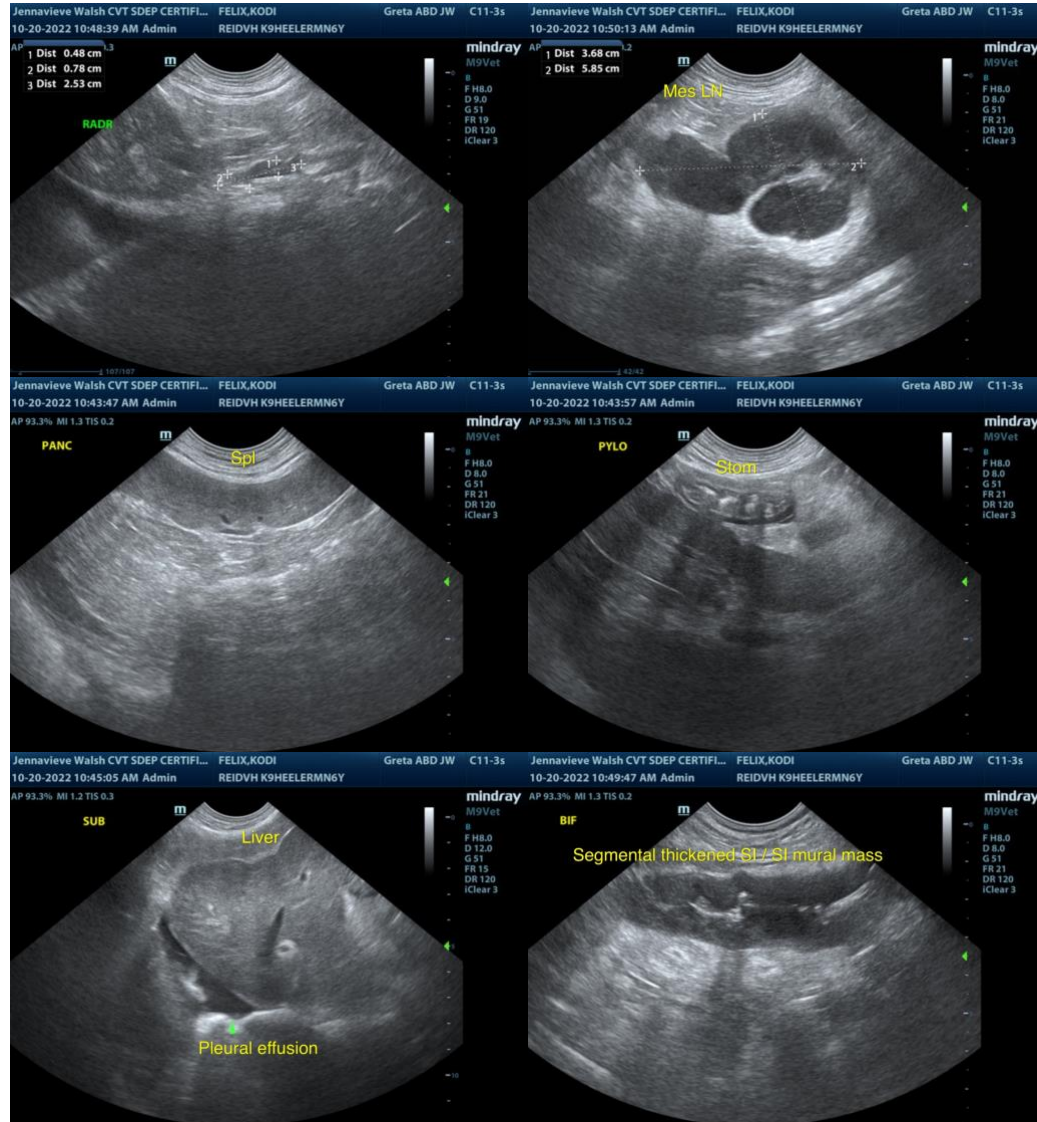
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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