

PATIENT PRESENTING CLINICAL SIGNS

Winston Lucibella

Lethargy, vomiting, harsh breathing. Concerned about aspiration pneumonia. WBC increased post antibiotic therapy. Concerns for neoplasia. Dx with UTI, chest rads show cardiomegally (with elevated WBCs and Anemia) and space occupying area on abdominal view. Has been on Clavaseptin, Zeniquin, Cerenia, Gabapentin.

SPECIES

Canine

Abnormal PE/Chem/CBC/UA Results: Please see attached rads and bloodwork. HCT 33, elevated WBC and M1 elevated ALP and GGT Free flow U/A - Leuks 2+, Cocci 3+, Blood 4+, Protein 1+, pH 6, sp. grav 1.015

BREED

Pug

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

SEX

MN

AGE

11 yrs

WEIGHT

10.7 kg

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

New Hamburg VC

REFERRING VET

Dr. Findlater

INVOICE

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11/25/22

CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
CARDIAC	VMAX	VMAX	(Boon method)	(Heart Base; Swe)	(%)	(%)	(cm)
PARAMETERS	(m/s)	(m/s)					
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT				1.3	34.8	69	0.2
CANINE	HR	AV	PV	BODY WEIGHT	LA	LVIDd	LVIDs
CARDIAC	(BPM)	VMAX	MAX	(kg)	2D short axis Base view	Avg; 2D and m-mode short axis	Avg; 2D and m-mode short axis
PARAMETERS		(m/s)	(m/s)		(cm)	(cm)	(cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
PATIENT	118	1.0	0.85		2.3	2.3	

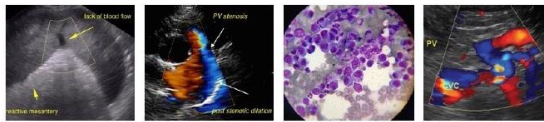
Cardiac Presentation

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. 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 yet subjective borderline subnormal, 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. 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



PATIENT	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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	Urinary System
SPECIES	The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Primarily anechoic urine was present in the lumen. Mild, primarily dependent, hyperechoic particulate sediment was present without evidence of calculus formation. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic mural changes were noted.
Canine	
BREED	
Pug	The residual prostate was free of pathology.
SEX	Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.9 cm in length. The right kidney measured 4.8 cm in length.
MN	
AGE	Adrenal Glands
11 yrs	The left and right adrenal glands were not definitively visualized.
WEIGHT	Spleen
10.7 kg	The spleen exhibited subjective mild enlargement with symmetrical to mildly rounded splenic contour and generalized mild parenchyma heterogeneity. Intermittent, mildly expansive, hypoechoic splenic nodules were present with an example measuring 2.0 cm in diameter. Normal splenic vascularity was present. No evidence of a splenic mass, respectively.
INTERPRETED BY	Liver/ Gallbladder
R. McKenzie Daniel, DVM, DABVP	The liver presented mildly enlarged in size. The hepatic parenchyma revealed mildly decreased echogenicity compared to the spleen and renal cortical parenchyma with a mild coarse echotexture. Mildly increased prominence of the portal vascular borders was evident. The capsule of the liver was normal in margination. Distinct masses or nodules were not evident. The hepatic and portal vasculature were normal in appearance. No evidence of a hepatic mass, respectively. The gallbladder was non-distended in size with primarily anechoic luminal content. The cystic and common bile ducts were normal.
IMAGING PERFORMED BY	Gastrointestinal
Crystal Hill	The stomach presented mild wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Mild retained anechoic gastric fluid was present. No evidence of mechanical pyloric outflow obstruction was noted.
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PATIENT	The colon walls presented intact yet prominent wall layering with mild to moderate thickened to echogenic submucosa. Semi-formed to soft fecal matter was present, suggestive of potential impending diarrhea.
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SPECIES	<i>Pancreas</i>
Canine	The parenchyma of the pancreas was hyperechoic to adjacent omental fat with diffuse parenchyma remodeling. The capsule of the pancreas was mildly asymmetrical in contour without evidence of peripancreatic inflammation. These changes may suggest chronic inflammation, fibrosis, or saponification if previous history of pancreatitis. No overt signs of pancreatic neoplasia.
BREED	<i>Free Abdomen</i>
Pug	
SEX	Multiple, primarily small, yet hypoechoic to swollen mesenteric and medial iliac lymph nodes were present. The lymph nodes exhibited symmetrical to rounded margination with abnormal width: length ratio (>0.5). An example of the mesenteric lymph nodes measured 2.1 cm x 1.4 cm. Regional perilymphatic to midabdominal mild nonuniform hyperechoic mesentery was present. An intermittent, small pocket of scant, primarily peri intestinal to perilymphatic free fluid was noted. No evidence of omental masses was noted.
MN	
AGE	
11 yrs	
WEIGHT	
10.7 kg	<ul style="list-style-type: none"> • Normal echocardiogram exhibiting adequate yet subjective borderline LV contractility - suspect secondary to systemic disease • Urinary bladder sediment - suspect cellular debris / protein or crystalline debris, in light of UTI history • Mild chronic renal changes - no evidence of pyelonephritis • Mild splenomegaly with intermittent mild expansive hypoechoic nodules - hyperplasia, hematopoiesis, splenitis, small hematomas, infarcts, infiltrative neoplasia possible • Hepatomegaly exhibiting mild parenchyma hypoechogenicity - potential acute hepatopathy, vacuolar hepatic changes, nonobstructive cholestasis, nonspecific acute hepatitis, noncardiogenic hepatic congestion, occult neoplasia possible • Gastroenterocolitis pattern • Intermittent to multiple primarily small hypoechoic to swollen mesenteric and medial iliac lymphadenopathy - hyperplasia, lymphadenitis, early neoplastic lymphadenopathy possible • Mid abdominal mild nonuniform hyperechoic mesentery and scant peritoneal free fluid - reactive / inflamed mesentery, staeitis, early carcinomatosis, lymphomatosis, or similar possible
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Concern for potential multicentric intraabdominal neoplasia is warranted, although not definitive with generalized inflammatory intraabdominal process possible. Assuming normal clotting status and using a 25-gauge needle, hepatosplenic and, if accessible, lymph node FNA cytology is recommended for further assessment +/- effusion analysis, cytology, and/or C/S if evidence of inflammatory effusion.

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CBC pathology review is recommended. Empirically, some or all of the following protocol could be considered with an assessment of clinical response with close monitoring of lab work. A guarded to possible unfavorable prognosis pending additional diagnostics.

SPECIES

Canine

**Peritonitis Protocol
Colloids/Hetastarch**

10 to 20 mL per kilogram per hour and dogs
10 to 15 mL per kilogram per hour cats
(Can bolus first 1/3 of dose over 15 minutes)

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Plasma 10 mL / kilogram IV over 4 hours
Buprenorphine 0.02 mg/kg IV IM SC q4-6 hours **Or CRI Lidocaine** 30-50 ug/kg/min
Dolasetron for nausea: 0.6-1 mg/kg/day Iv or PO

SEX

MN

Famotidine 1 mg/kg IV IM p.o. dc s.i.d. /b.i.d.
Sucralfate 0.5-1 g p.o. t.i.d. dogs, 0.5 g bid cats in slurry **Or Misoprostol** 1-5 ug/kg po tid
Clindamycin 10mg/kg IV p.o. bid

AGE

11 yrs

Enrofloxacin 10-15 mg/kg IV p.o. s.i.d. dogs, 5 mg/kg Iv po Sid cats
Metronidazole 10-20 mg/kg IV p.o. b.i.d.

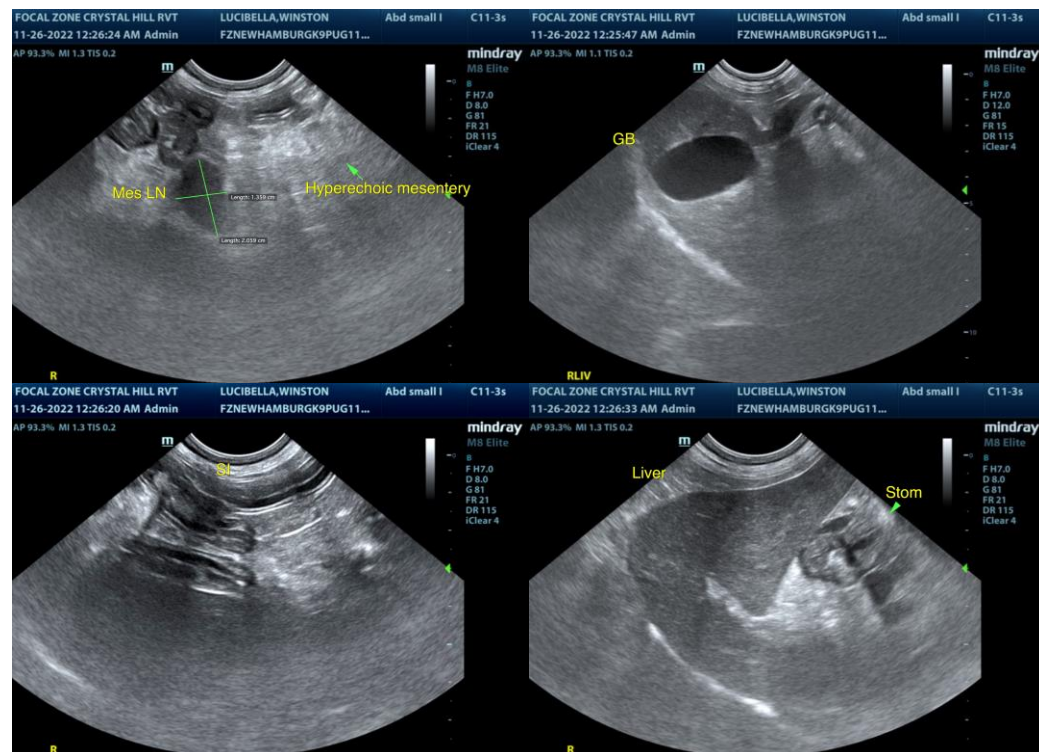
Dexamethasone physiological 1 mg/kg to treat adrenal burnout if long standing sickness, shock dose 4-10 mg/kg.

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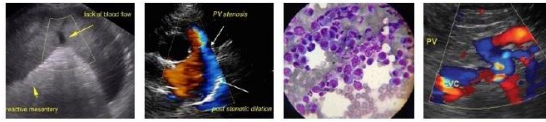
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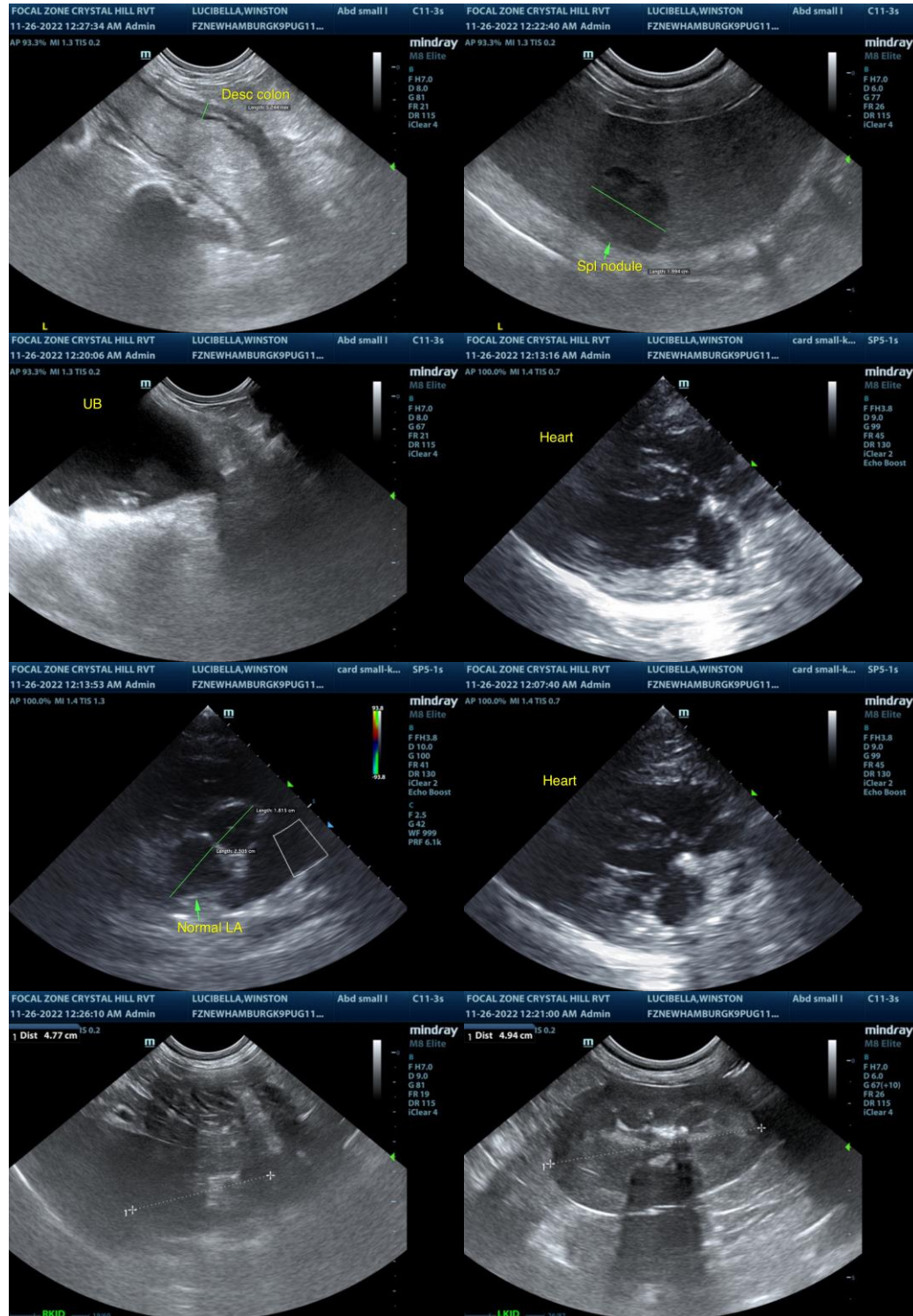
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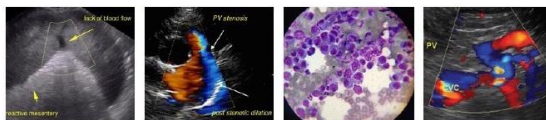
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

SPECIES

Canine

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.

BREED

Pug

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

SEX

MN

AGE

11 yrs

WEIGHT

10.7 kg

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