



## PATIENT

Possum VanDyk

## SPECIES

Feline

## BREED

DSH

## SEX

FS

## AGE

10 yrs

## WEIGHT

9.2 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Shari Reffi, CVT

## HOSPITAL NAME

Tranquility  
Veterinary Clinic

## REFERRING VET

Dr. House

## INVOICE

14816

## DATE

9/6/22

## PRESENTING CLINICAL SIGNS

Lethargic, anorexic, hiding in closet for a few days, soft tissue mass R caudal ventral thorax on CXR, segment of SI abnormally thickened on AXR. Current meds: Transdermal Mirtazapine  
Abnormal PE/Chem/CBC/UA Results: Neuts 10,823, Monos 1233, TBilli 0.9

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT		2.5	0.52	1.3	0.45	54	88
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Sisson)	LA 2D 4-chamber long axis AS to FW (Sisson) (cm)	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)	
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60	
PATIENT	1.3	1.3	1.25	1.0	0.8	NM	

Adapted from June Boon, Veterinary Echocardiography, 1998  
Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705

## Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. No MR was noted on doppler. The **left ventricle** presented normal 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 and angles of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. Normal LVOT velocity was noted. The **right atrium** and auricle revealed borderline to mild prominent size, normal structure and anechoic content. No evidence of masses was noted or significant chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinetics. No TR was noted on doppler. The **right ventricle** exhibited borderline to mild prominent size compared to the LV normal chordae structure, myocardial echogenicity and free wall thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). Normal RVOT velocity was noted. Potential for scant pericardial effusion is possible although not definitive. Mild volume free pleural fluid was present. A solid, primarily hypoechoic, homogeneous mass lesion was present in the caudal thorax directly effacing the diaphragm measuring approximately 3.6 cm in diameter. No overt evidence of cardiac tumors was noted.



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**Urinary System**

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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 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.

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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. Focal to multiple cortical infarcts were present. No evidence of pelvic dilation was present. The left kidney measured 3.6 cm in length. The right kidney measured 4.3 cm in length.

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**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.38 cm width. The right adrenal gland was not definitively visualized owing to regional periadrenal omental artifact.

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**Spleen**

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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. The spleen measured 0.93 cm width at the level of the hilus.

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**Liver/ Gallbladder**

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. The gallbladder was non-distended in size containing mild gallbladder debris. This is likely incidental, potentially secondary to fasting. The cystic and common bile ducts were normal.

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**Gastrointestinal**

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Regional moderate to severe gastric wall thickening and loss of gastric wall layer detail was present primarily involving the subjective mid gastric body, antrum, and pylorus. The thickened gastric walls exhibited decreased echogenicity and an asymmetrical luminal surface. The gastric mass measured approximately 6.0 cm in diameter with wall width up to 2.2 cm width. Mild retained anechoic fluid was present in the gastric lumen without evidence of foreign material.

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The small intestine exhibited primarily intact wall layering and maintained a 1:3 muscularis/mucosa ratio with concurrent segmental small intestinal mural mass noted mid abdomen measuring approximately 3.0-4.0 cm in length with wall width up to 0.54 cm. Concurrent peri-intestinal regional hyperechoic mesentery was noted.

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



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## Pancreas

The left limb, right limb, and base of the pancreas presented hypoechoic to heterogeneous echogenicity compared to adjacent omental fat. Mild asymmetrical capsule margination was present with mild variable parenchymal swelling and mild peripancreatic reactivity / inflammation. No overt evidence of neoplasia.

## Free Abdomen

Multiple, primarily small, mesenteric and medial iliac lymph nodes were present. The lymph nodes were essentially isoechoic to adjacent omentum without evidence of peripheral inflammation and maintaining a normal width: length ratio (<0.5). Regional perigastric hyperechoic mesentery was present. Concurrent mild volume peritoneal free fluid was noted.

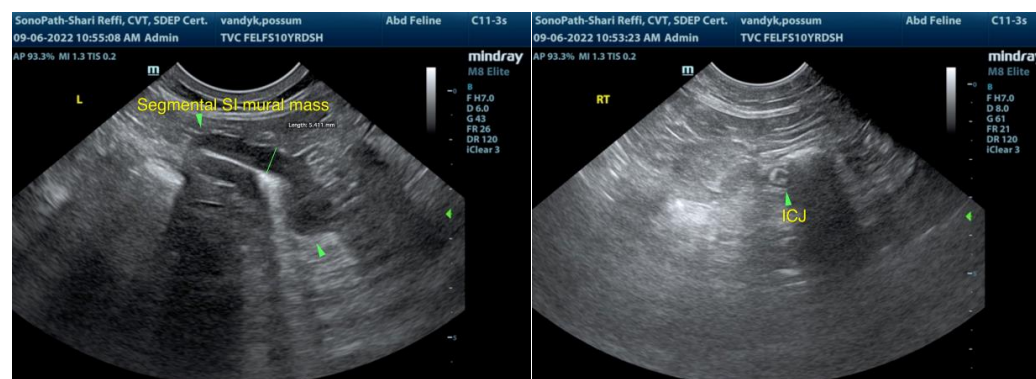
## ULTRASONOGRAPHIC FINDINGS

- Borderline to mildly prominent RA / RV - no evidence of pulmonary hypertension
- Normal LA / LV
- Solid primarily homogeneous caudal thoracic mass
- Gastric mass with concurrent segmental small intestinal mural mass
- Regional perigastric peritonitis and associated primarily mild mesenteric lymphadenopathy
- Possible concurrent low-grade pancreatitis
- Mild volume pleural and peritoneal free fluid

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Although sampling is required for further prognosis, primary concern for multicentric neoplasia involving the stomach, segmental small intestine, and caudal thorax with potential perigastric omental seeding is warranted. Primary concern for high-grade lymphoma. Alternative etiologies may include different types of neoplasia with a potential for multicentric granulomatous disease (dry FIP) which may present in a similar sonographic manner. Correlation with pending cytology is recommended.

Additional cytology from the caudal thoracic mass and/or small intestinal mural mass could also be considered. Biopsies may be required for a definitive diagnosis with the potential for an oncology consult. However, an unfavorable prognosis is indicated given this presentation.





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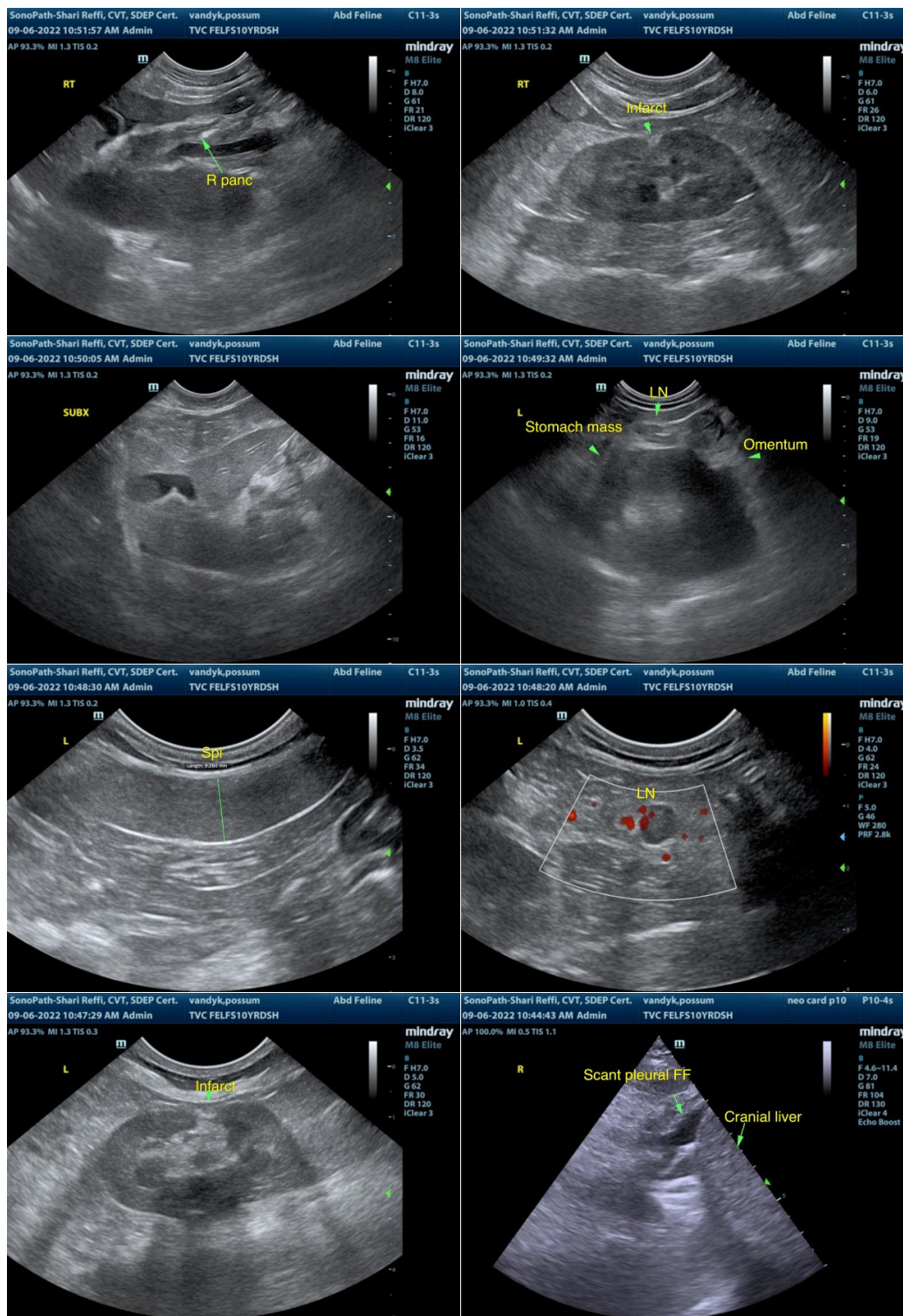
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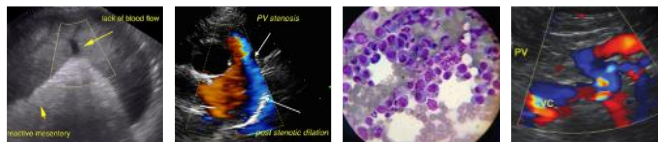
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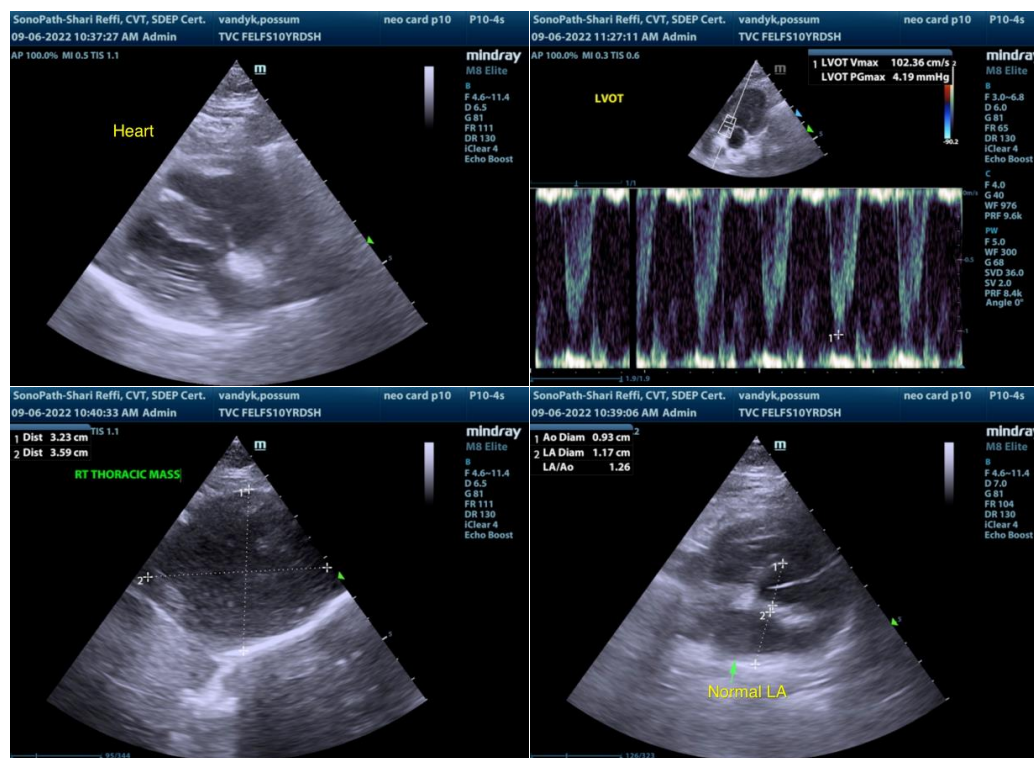
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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info@SonoPath.com