


**PATIENT**

Ozzie Jones

**PRESENTING CLINICAL SIGNS**

Weight loss, intermittent fever (as high as 105), pleural effusion, dyspnea. Gabapentin for sedation. Started on Orbax, Lasix 10 mg BID and Pred-L. Off Prednisolone for 3 days now.

**SPECIES**

Feline

Abnormal PE/Chem/CBC/UA Results: PE: T 103.5, depressed, increase RR, no audible heart murmur, painful slightly enlarged kidneys. RADS: hepatomegaly, splenomegaly, pleural effusion and possible cranial thoracic or mediastinal mass. BW: Hct 30%, SDMA 34, T-4 N.

**BREED**

DSH

**SEX**

MN

**AGE**

5yr

**WEIGHT**

17lb

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART**

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		210	0.58	2.1	0.58	55	87.6
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	1.6	1.6	1.5	1.6	1.0		
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							

**INTERPRETED BY**

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

**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 overt MR present 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. The 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 measured LVOT velocity was present. The right atrium and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. Tricuspid valvular assessment demonstrated adequate linear morphology and kinetics. No overt TR present on Doppler. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Pulmonic tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). Normal measured RVOT velocity was present. No visible pericardial free fluid was present. Mild volume free pleural fluid was noted. A homogenous soft tissue echo was present in the cranial thorax or potential mediastinum. A definitive space occupying cranial thoracic or cranial mediastinal mass was not definitive. No evidence of cardiac tumors.

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or

**IMAGING PERFORMED BY**

Karen Ebersole

**HOSPITAL NAME**

Scanvet

**REFERRING VET**

Dr. Giroux

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<b>PATIENT</b>	sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.
Ozzie Jones	
<b>SPECIES</b>	Both kidneys were mildly enlarged in size. 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. A discrete to mild hyperechoic corticomedullary band, consistent with a medullary rim sign, was present. This is a nonspecific finding seen in both normal and abnormal kidneys. It may be associated interstitial renal disease, hypercalcemia, tubular necrosis, lymphoma, and FIP. However, it is a nonspecific finding. The left kidney measured 4.7 cm in length. The right kidney measured 4.9 cm in length. No evidence of retroperitoneal free fluid or retroperitoneal inflammatory criteria.
Feline	
<b>BREED</b>	The area of the aortic trifurcation was free of pathology.
DSH	
<b>SEX</b>	<b>Adrenal Glands</b>
MN	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.41 cm width. No overt pathology in the area of the right adrenal gland.
<b>AGE</b>	<b>Spleen</b>
5yr	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 1.0 cm in width at the level of the hilus.
<b>WEIGHT</b>	<b>Liver/Gallbladder</b>
17lb	The liver was mildly enlarged with normal 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 with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.
<b>INTERPRETED BY</b>	<b>Gastrointestinal</b>
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	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 gastric body wall measured 0.25 cm in width.
<b>IMAGING PERFORMED BY</b>	The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material. The duodenum wall measured 0.25 cm width. The jejunum wall measured 0.25-0.28 cm width.
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<b>HOSPITAL NAME</b>	<b>Referring Vet</b>
Scanvet	Normal visible colon wall layers were present with apparent formed feces in lumen.
<b>REFERRING VET</b>	<b>Pancreas</b>
Dr. Giroux	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.
<b>INVOICE</b>	<b>Free Abdomen</b>
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<b>DATE</b>	
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## PATIENT

Ozzie Jones

Intermittent mildly prominent mid abdominal mesenteric lymph nodes were present. These lymph nodes were homogenous, mildly hypoechoic and smoothly margined. A normal width: length ratio was maintained (<0.5). Evidence of perilymphatic inflammation was present. An example of lymph node size was 2.2 cm x 0.76 cm.

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## ULTRASONOGRAPHIC FINDINGS

- Normal echocardiogram.
- Homogenous soft tissue echo cranial thorax or cranial mediastinum-lung consolidation, infection/inflammation, granulomatous disease, neoplasia or other.
- Mild volume pleural effusion-noncardiogenic.
- Bilateral mild non-specific renal medullary rim sign with minor bilateral renomegaly.
- Overtly normal GI tract.
- Intermittent mild hyperechoic mesenteric lymphadenopathy-hyperplasia, reactive lymphadenitis, potential for emerging lymphatic neoplastic criteria thought less likely but cannot be definitively excluded.
- Mild non-specific hepatomegaly.
- Sonographically unremarkable spleen.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Previous prednisolone use may have masked thoracoabdominal changes or pathology. Assuming normal clotting status and using a 25g needle, a cranial thoracic soft tissue echo and hepatosplenic FNA for screening cytology could be considered for further assessment. Concurrent pleural effusion analysis cytology +/- C/S if evidence of inflammatory criteria would be ideal.

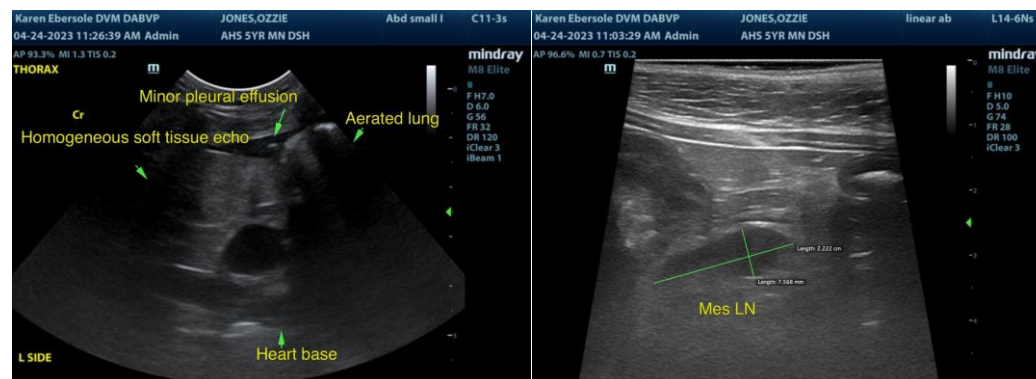
FIP is technically a potential in this patient, FIP titer/PCR could be considered. No overt sonographic evidence of renal neoplastic criteria.

A CBC pathology review, infectious disease serology, recheck retroviral status and a GI panel to include PLI/TLI/Cobalamin/Folate to assess for occult disease as a contributing factor to the weight loss and fever is recommended.

A guarded prognosis is indicated.

For an additional charge, internal medicine consult can be utilized through SonoPath.com. You can select the internal medicine drop down at <http://spa.sonopath.com/>.

One of the world's top internists & SonoPath associate Dr. Remo Lobetti BVSc, MMedVet, PhD, DECVIM can evaluate your case through SonoPath. <https://sonopath.com/resources/sonopath-services/internal-medicine-teleconsultation-services>





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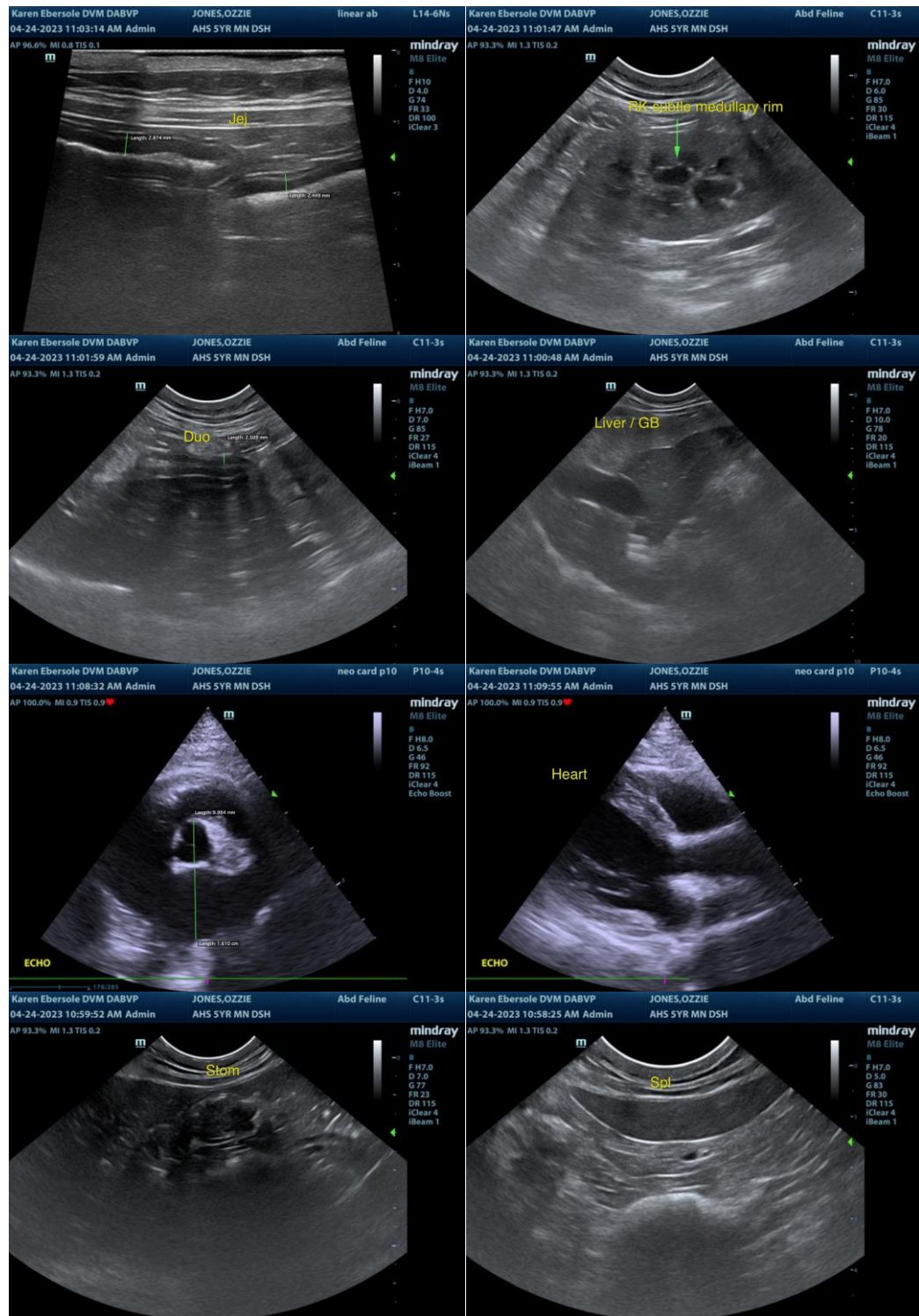
Dr. Giroux

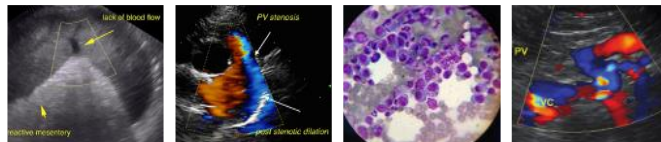
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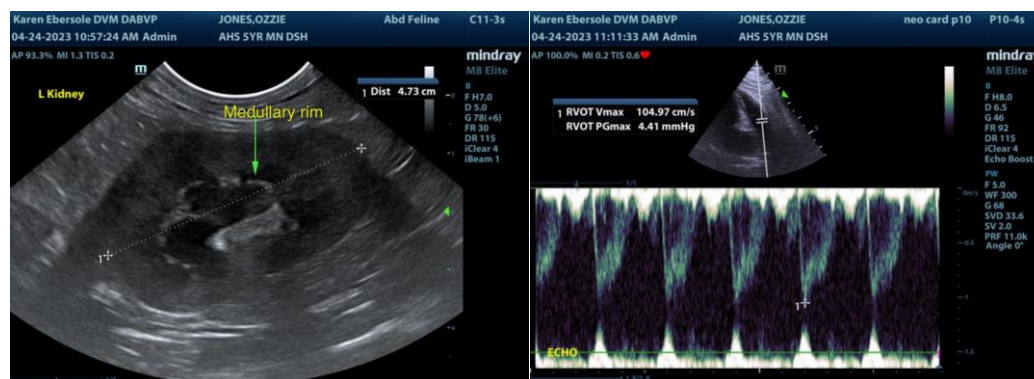
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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