


**PATIENT**

Wendy Shokoff

**SPECIES**

Canine

**BREED**

Miniature Pinscher

**SEX**

FS

**AGE**

14yr

**WEIGHT**

10.2lb

**PRESENTING CLINICAL SIGNS**

History: Patient with history of pancreatitis presents for acute weakness and vomiting on 7/24. Radiographs revealed severe cardiomegaly and hepatosplenomegaly. \*Patient is on a grain free diet from dermatologist. Current meds: Convenia, famotadine, and Cerenia.

Abnormal PE/Chem/CBC/UA Results: SDMA 17, BUN 51, creat. WNL 1.1, ALT 220, ALP 273, GGT 13, lipase 2345, amylase WNL. U/A: pending.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART**

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				2.3	40.6	74.7	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	92	1.0	0.75		4.4	3.2	

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Kelly Vazquez

**HOSPITAL NAME**

 Midland Park  
 Veterinary Hospital

**REFERRING VET**

Dr. Shokoff

**INVOICE**

11192ag

**DATE**

07/26/2022

**Cardiac Presentation**

The echocardiogram for this patient presented excessive left atrial size expressed both in the LA/AO and LA max measurements. Deviation of the interatrial septum towards the right atrium suggestive of increased left atrial pressure was present. The cranial and caudal mitral valve leaflets presented vegetative thickening consistent with endocardiosis without evidence of valvular prolapse yet loss of normal coaptation was noted. Doppler indicated measurable moderate eccentric insufficiency. The left ventricle presented thicknesses with linear contour and moderate increased left ventricle volume. 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 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 or chamber overload. Tricuspid valvular assessment demonstrated concurrent mild thickening with mild 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). Mild volume pericardial free fluid exhibiting echogenic component with potential pericardial thrombus was present. Potential concurrent minor volume pleural free fluid possible. No evidence of infiltrative disease or cardiac tumors were visible.

**Urinary System**

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



<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.
Wendy Shokoff	
<b>SPECIES</b>	Normal size and margination was 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 moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 3.0 cm in length. The right kidney measured 3.7 cm in length.
Canine	
<b>BREED</b>	The area of the aortic trifurcation was free of pathology.
Miniature Pinscher	
<b>SEX</b>	<b>Adrenal Glands</b>
FS	Both adrenal glands appear mildly prominent in size exhibiting subtle nonhomogeneous parenchyma. The left adrenal gland measured 0.76 cm width at the caudal pole and 2.0 cm length. The right adrenal gland measured 0.84 cm width at the caudal pole and 1.6 cm length.
<b>AGE</b>	<b>Spleen</b>
14yr	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.
<b>WEIGHT</b>	<b>Liver</b>
10.2lb	The liver presented enlarged in size. 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. The gallbladder was non-distended in size with 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.
<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.
Kelly Vazquez	Normal visible colon wall layers were present with apparent formed feces in lumen.
<b>HOSPITAL NAME</b>	<b>Pancreas</b>
Midland Park Veterinary Hospital	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.
<b>REFERRING VET</b>	<b>Free Abdomen</b>
Dr. Shokoff	No overt lymphadenopathy or peritoneal effusion was present.
<b>INVOICE</b>	<b>ULTRASONOGRAPHIC FINDINGS</b>
11192ag	<ul style="list-style-type: none"> <li>Chronic mitral valve disease (ACVIM stage C)</li> </ul>
<b>DATE</b>	
07/26/2022	



## PATIENT

Wendy Shokoff

- Mild volume pericardial free fluid- no evidence of cardiac tamponade
- Potential concurrent minor volume pleural free fluid
- Bilateral moderate chronic renal changes
- Hepatopathy-subjectively benign, no overt evidence of hepatic congestion
- Chronic active pancreatitis pattern
- Mildly prominent bilateral adrenal glands-nonspecific

## SPECIES

Canine

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

## BREED

Miniature Pinscher

The cardiac presentation is most consistent with chronic degenerative valvular changes. SDCM criteria was not overtly met. Given the patient is on a grain free diet, taurine levels are suggested to rule out taurine deficiency as a complicating factor. Ideally a change to a more traditional dermatologic diet would be recommended.

## SEX

FS

The current and future risk of complications and episodes of CHF is significantly elevated. The pericardial and pleural effusion is likely suggestive of congestive heart failure. The possibility of a small left atrial tear with secondary pericardial bleed and small thrombus formation is possible.

## AGE

14yr

Pimobendan 0.3 mg/kg PO BID. Lasix 1-2 mg/kg PO BID is recommended. Serial sonographic monitoring is required for further prognosis. Monitoring of renal parameters and BP +/- ECG is warranted. If BP is >130 an ACE inhibitor could be considered.

## WEIGHT

10.2lb

This patient is at increased risk of development of malignant arrhythmias and episodes of CHF. A very guarded long-term prognosis is indicated.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Kelly Vazquez

## HOSPITAL NAME

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Veterinary Hospital

## REFERRING VET

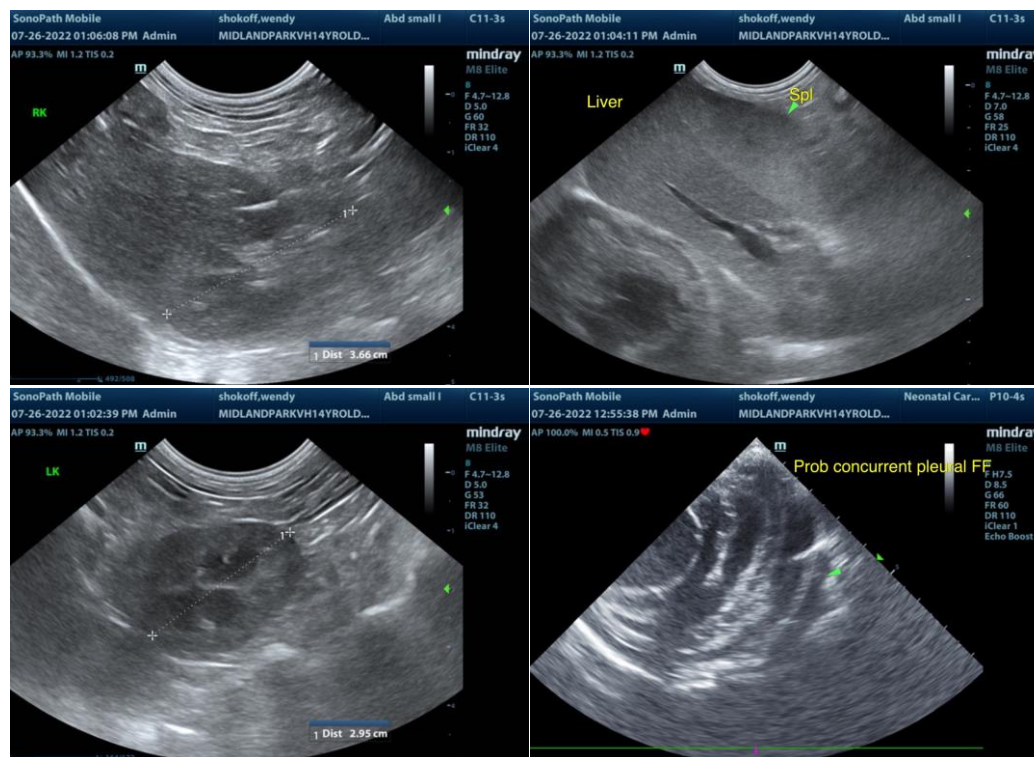
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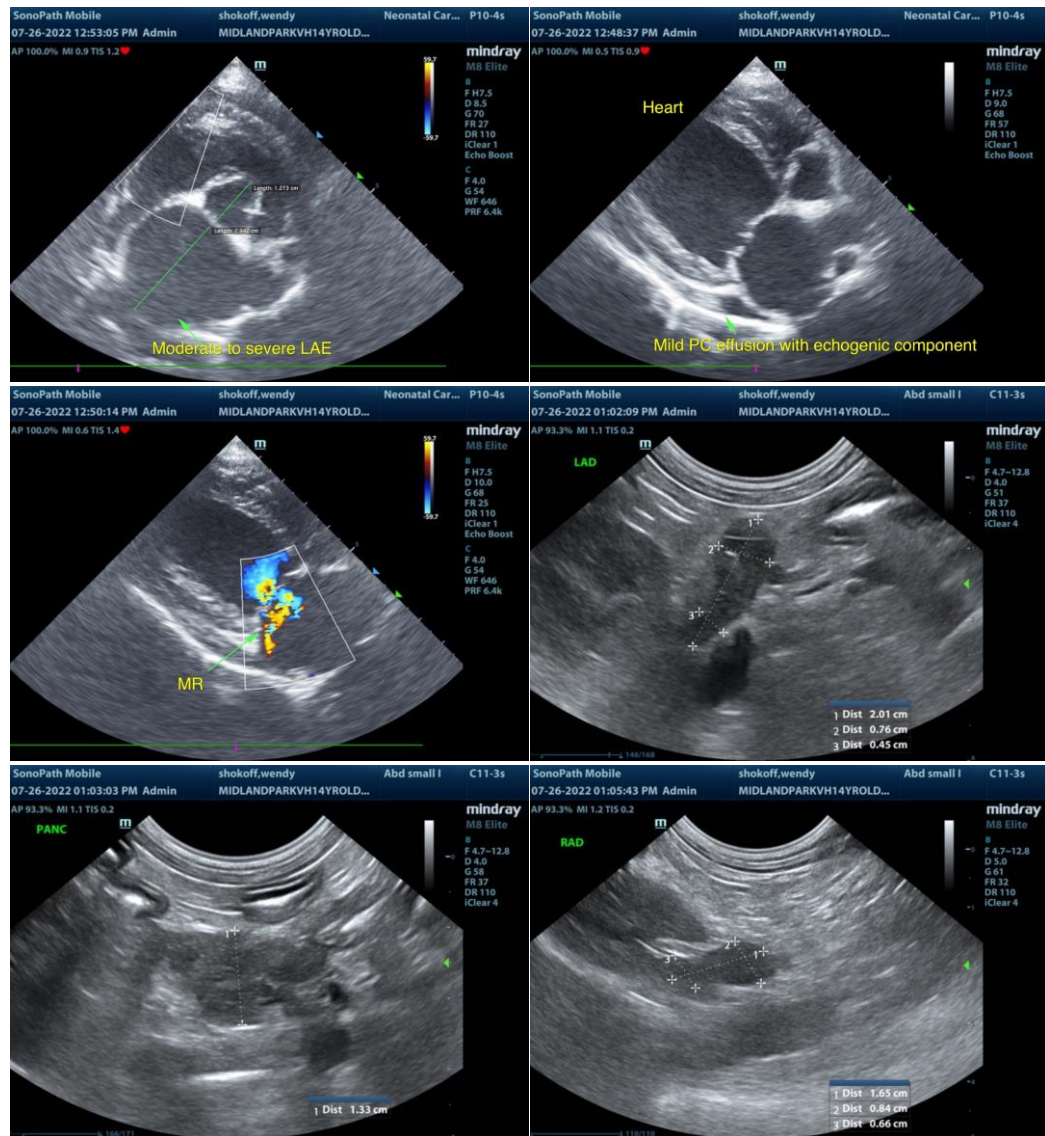
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

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