

**PATIENT PRESENTING CLINICAL SIGNS**

Nico Starrett  
History: poor appetite, weight loss. Per rad report cardiomegaly and consolidated left lung lobe. CBC/chem WNL; UA: dark yellow, cloudy, USPG 1.043

**SPECIES**

Feline

**BREED**

Domestic Shorthair

**SEX**

Neutered male

**AGE**

10 years

**WEIGHT**

11 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Diane McFadden, RVT

**HOSPITAL NAME**

Marsh Hospital for  
Animals

**REFERRING VET**

Dr. Milwicks

**INVOICE**

43159

**DATE**

12/16/22

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**  
*Urinary System*

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The left kidney measured 4.24 cm and the right kidney measured 4.4 cm.

*Adrenal Glands*

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 0.32 cm.

*Spleen*

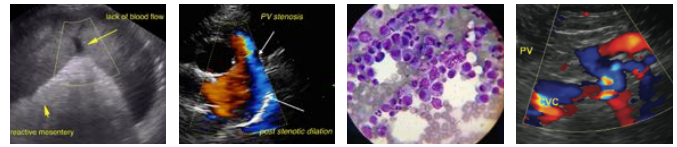
The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

*Liver*

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

*Gastrointestinal*

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine



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demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

**SPECIES**

**Pancreas**

Feline

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

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Domestic Shorthair

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

**SEX**

Neutered male

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. Inflow from the pulmonary veins into the left atrium was non-obstructed at this time. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. 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. 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. 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). An **isoechoic mass** in the position of aortic body tumor or connective tissue tumor. These are typically slow growing. The mass measured 1.6 x 1.6 cm. The mass extends into the chest cavity around the base of the heart. Trace pericardial effusion was noted without tamponade effect. The mass encompasses the major vasculature at the heart base including aorta and vena cava, yet they appear to have fairly contained volume.

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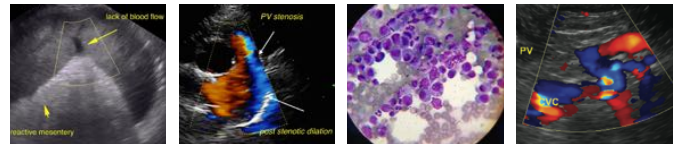
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FELINE CARDIAC PARAMETERS	BODY WEIGHT	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	11 lbs	228	0.35	1.3	0.32	37	71
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART 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	1.28	1.28				0.6	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							



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**ULTRASONOGRAPHIC FINDINGS**

Heart base and thoracic mass, enveloping aorta and vena cava. Connective tissue tumor and aortic body tumor are the primary differentials.

**SPECIES**

Feline

Trace pericardial effusion.

**BREED**

Domestic Shorthair

Normal cardiac function otherwise.

Age related liver and pancreas.

**SEX**

Neutered male

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Ultrasound-guided FNA of the heart base mass could be considered, but carries some risk given the vascularity around the mass. No specific therapy is warranted in this patient other than blood pressure measurements. Assessment for exercise intolerance is warranted. Recheck echocardiogram should be performed in 6 months or earlier if any clinical signs initiate.

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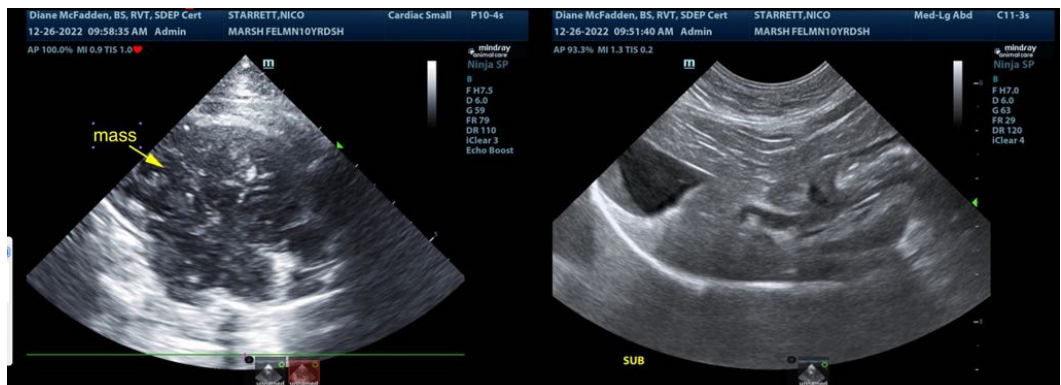
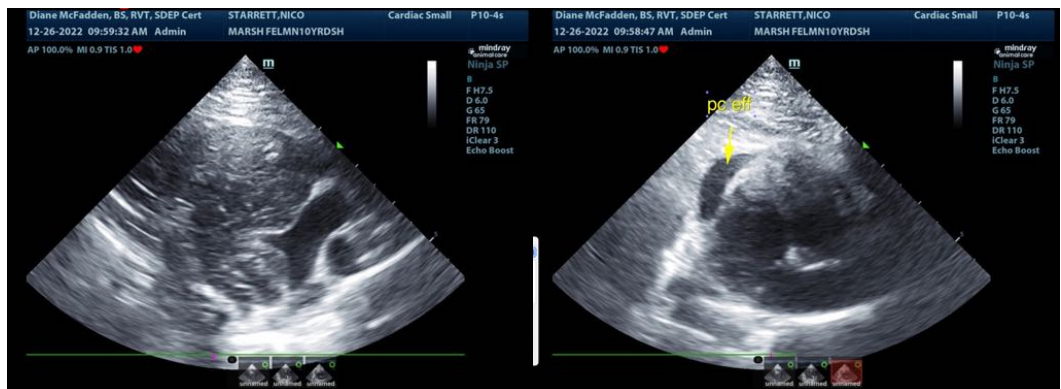
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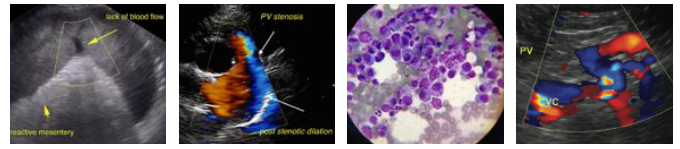
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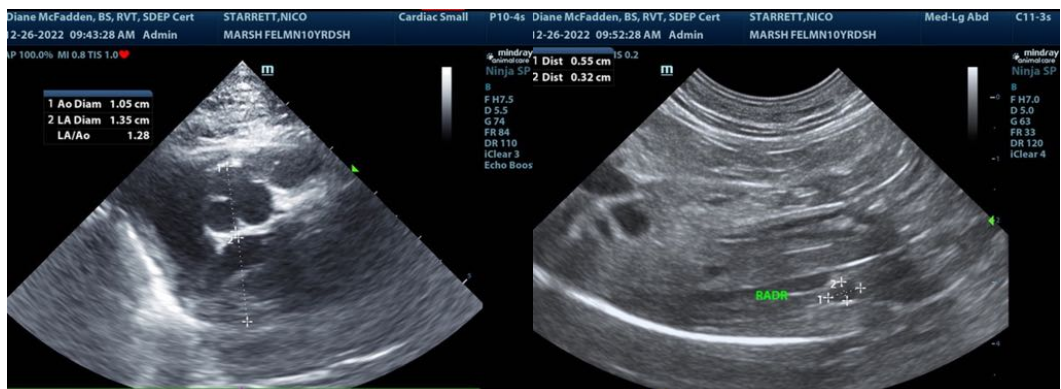
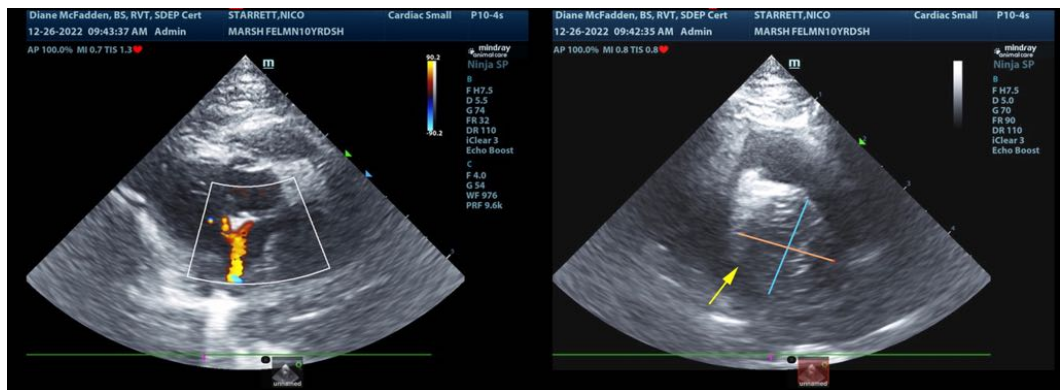
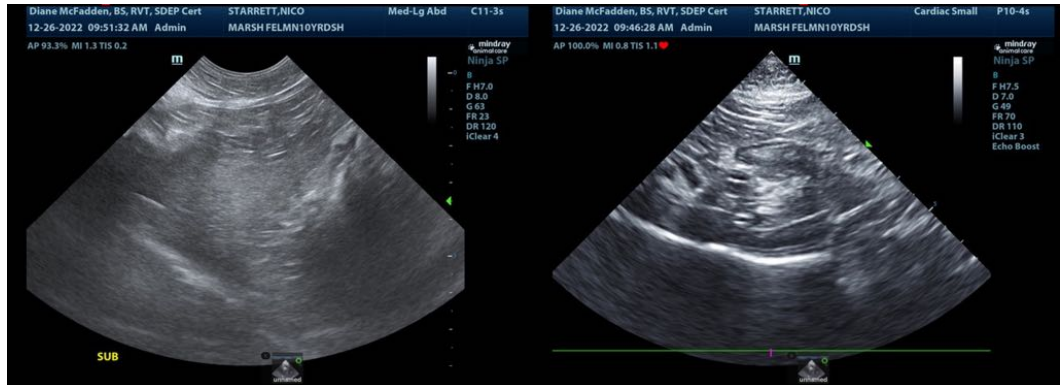
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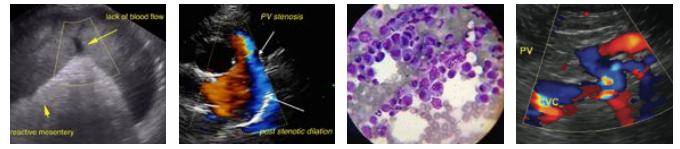
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist**, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
Info@SonoPath.com

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