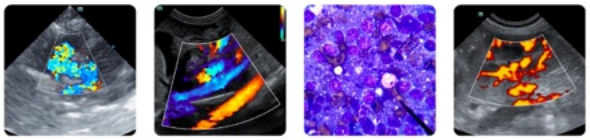


PATIENT

Nina Shaffer

SPECIES

Feline

BREED

Bengal Mix

SEX

Spayed female

AGE

11 years

WEIGHT

7.5 lbs

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Alex McFeely, DVM

HOSPITAL NAME

Centre AH

REFERRING VET

Dr. McFeely

INVOICE

78308

DATE

6/2/26

PRESENTING CLINICAL SIGNS

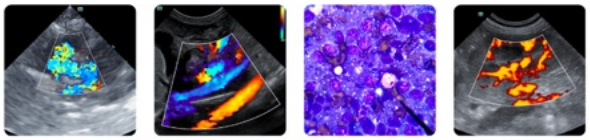
History: Nina presented in early May after being diagnosed with hyperthyroidism at another local vet clinic. She had been dyspneic, tachypneic, and tachycardic since early March. The previous vet had started her on methimazole and atenolol, but imaging had not yet been performed. In early May her methimazole dosage was adjusted and she was scheduled for imaging. Today, survey radiographs revealed bicavity effusion (poor detail), which ultrasound confirmed. After cardiac ultrasound SDEP protocol was performed, a brief abdominal ultrasound was performed to rule out neoplasia. Therapeutic/diagnostic thoracocentesis was performed and 225ml cloudy pink/apricot fluid was obtained, followed by abdominocentesis to obtain a small sample, which appeared similar (see lab comments below). Submitted for cytology interpretation by pathologist (pending). Nina was given 0.7mg butorphanol to lightly sedate for ultrasound today.
Abnormal PE/Chem/CBC/UA Results: Initially elevated T4 in 6ug range in March. Low T4 level 0.9ug/dl in mid May after 2.5mg methimazole dose increased from once daily to BID. Pleural and abdominal fluid found to be a modified transudate or neoplastic effusion today (specific gravity 1.030 and Total Protein 4g/dl). Cytology of thoracic and abdominal fluid pending.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated volume overload of the **left atrium** and **left ventricle**. However, there was no evidence of overt heart failure. Minor **mitral** valve insufficiency was noted. 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 **right ventricle** were also enlarged. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinetics. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). A large amount of echogenic pleural effusion was noted throughout the thorax.

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	7.5 lbs	NM	0.4	1.8	0.5	30	
FELINE CARDIAC PARAMETERS	**LA/AO** (M-mode)	**LA/AO HEART BASE** (Sisson)	**LAD** LA MAX 4 Chamber		**LVOT VEL.** (m/s)	**RVOT VEL.** (m/s)	**IVRT** (m/)
NORMAL PARAMETER	<1.5	1.6	0.7-1.7		<1.6	<1.3	40-60
PATIENT	1.4		1.5			1.0	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 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 largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Cortical infarct was noted in the caudal pole of the left kidney. The left and right kidney measured 3.5 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.

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** was coarse in architecture. The gallbladder and common bile duct were unremarkable.

Gastrointestinal

The **gastrointestinal tract** was enveloped by adhesions and the cranial abdominal mass.

Pancreas

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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Free Abdomen

The cranial abdomen revealed a coalescing tissue mass involving the pancreas and appeared to be adhered to adhered to the spleen, which was mildly irregular.

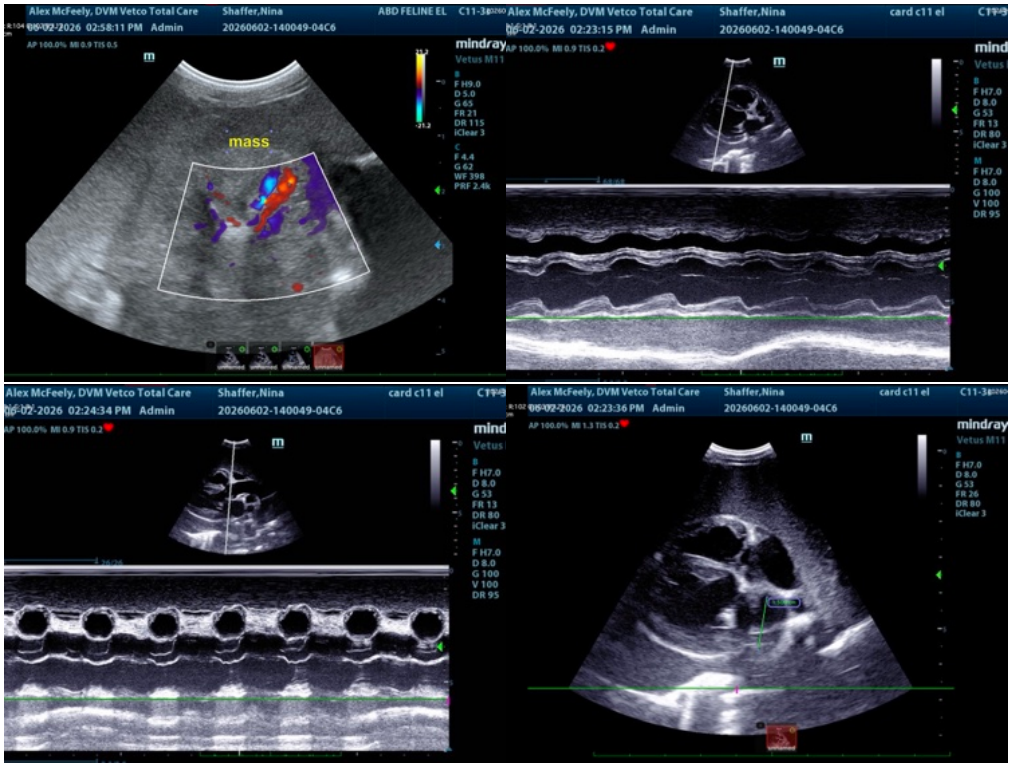
Echogenic effusion was noted throughout the abdomen and is non-cardiogenic.

ULTRASONOGRAPHIC FINDINGS

Carcinomatosis, lymphomatosis pattern or similar with potential for FIP (less likely).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There does not appear to be adequate volume overload for the amount of pleural effusion. The pleural effusion is likely noncardiogenic in this patient. Pleurocentesis and abdominocentesis with cytospin and culture are indicated. Prognosis is poor.



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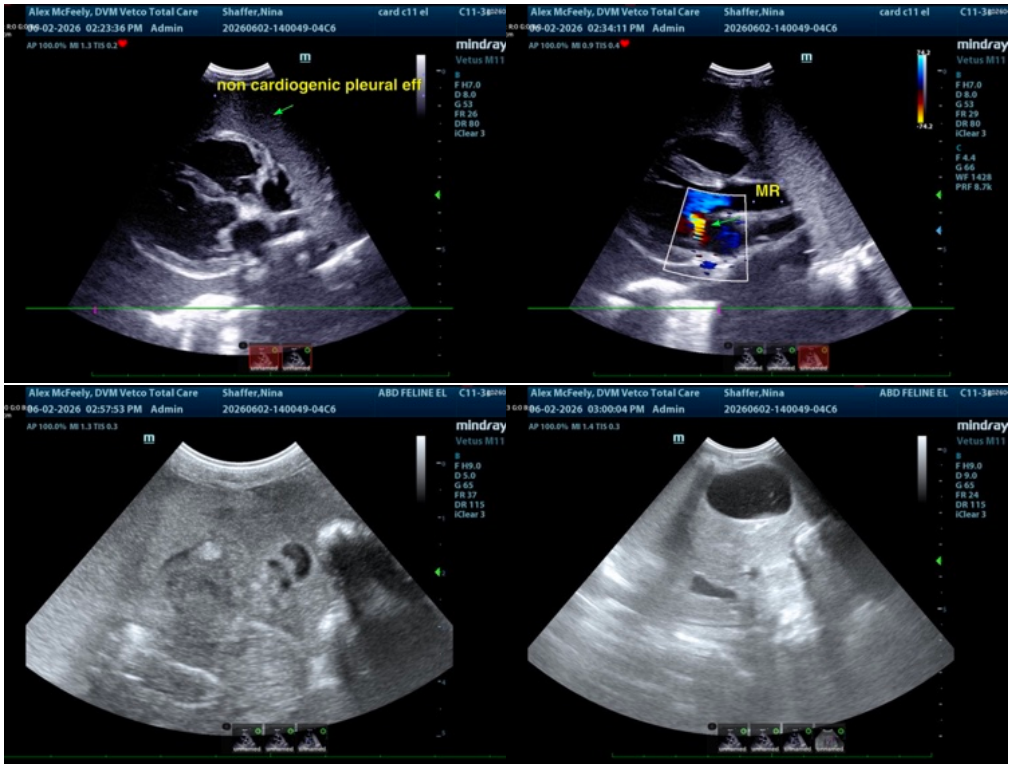

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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 (CFM), Cert. IVUSS, CEO of SonoPath.com

info@SonoPath.com