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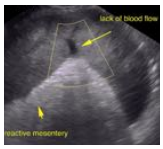
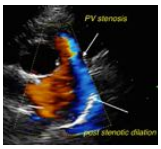
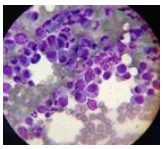
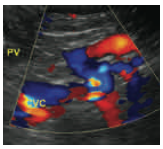

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1-800-838-4268 info@sonopath.com

PATIENT

Mishkin Sherwin

SPECIES

Feline

BREED

Siberian

SEX

Neutered male

AGE

16 years

WEIGHT

8.9 lbs

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Marsh AH

REFERRING VET

Dr. Milwicki

INVOICE

92249

DATE

10/8/21

PRESENTING CLINICAL SIGNS

History: Anorexia, jaundice. Hx of HCM, Hyperthyroidism, IBD. Current meds: Bidesonide, Methimazole
Abnormal PE/Chem/CBC/UA Results: AST 417, ALT 1703, ALKP 203, TBili 4.3, Na/K ratio 42, Chol 334, Amyl 1440, PSL 27, Lymphs 602. U/A- Prot 2+, Bili 3+, Bld 3+, RBC 21-50, Squam epith 4-10

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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.. 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. Trivial **tricuspid** insuffieincy was noted, yet not clinically significant. 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). No visible **pericardial** or free pleura fluid was noted or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

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	8.9 lbs	164	0.5	1.6	0.5	45	75
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	1.2	1.6		1.1	0.9	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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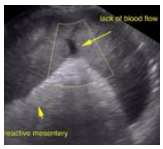
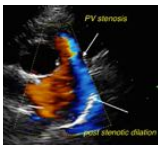
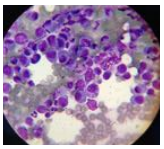
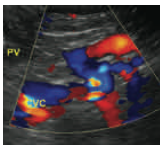

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ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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. The left kidney measured 4.31 cm. The right kidney measured 4.65 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 right cranial **liver** revealed a 4.6 x 2.15 cm mass in the region of the portal hilus that was deriving from the pancreas. The liver revealed lobar, biliary duct dilation. The liver parenchyma is relatively uniform with a minor amount of free fluid. The gallbladder was turgid. The gallbladder wall was edematous. The cystic duct was tortuous.

Gastrointestinal

The stomach was filled with ingesta. Delayed pyloric outflow appeared to be an issue. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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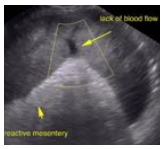
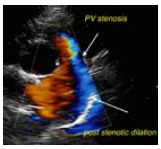
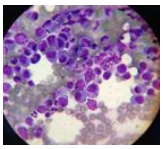
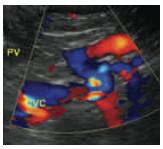

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Pancreas

The mass in the region of the portal hilus is deriving from the pancreas with regional inflammation. Undifferentiated, heterogenous parenchymal changes were noted elsewhere. The mass enveloped the upper gastrointestinal tract and does not appear resectable.

Free Abdomen

Free fluid was noted.

ULTRASONOGRAPHIC FINDINGS

Normal echocardiogram.

Post hepatic obstruction owing to right pancreatic mass.

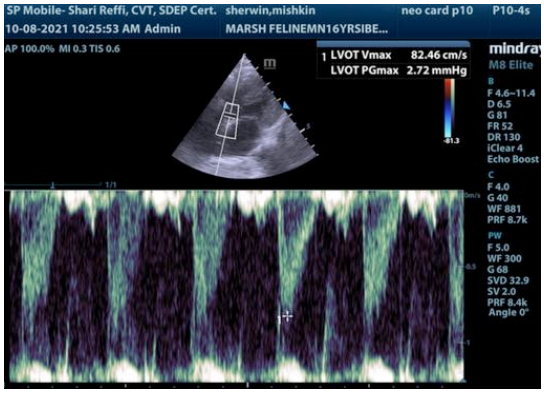
Regional inflammation.

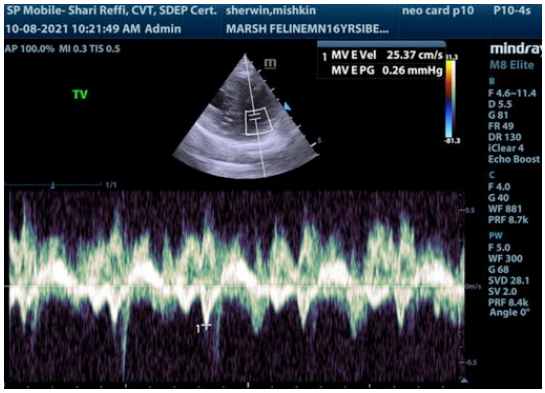
Secondary free fluid, likely owing to emerging carcinomatosis or lymphatic obstruction.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is no evidence of cardiac pathology.

Ultrasound-guided FNA of the general hepatic parenchyma and pancreatic mass could be considered for further definition to assess for the possibility of chemoreduction. The mass is ill-defined and does not appear resectable. The prognosis is poor long term.





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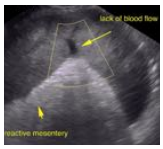
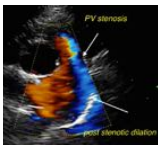
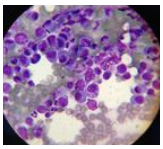
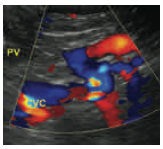

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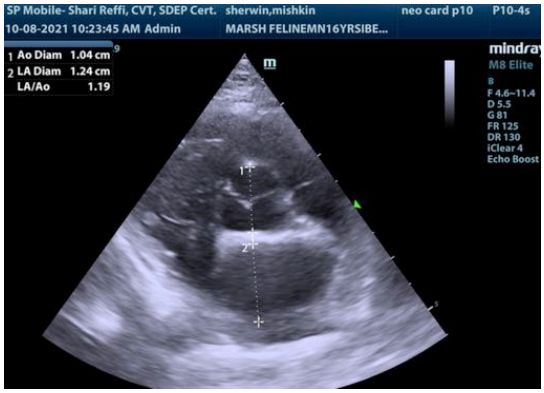

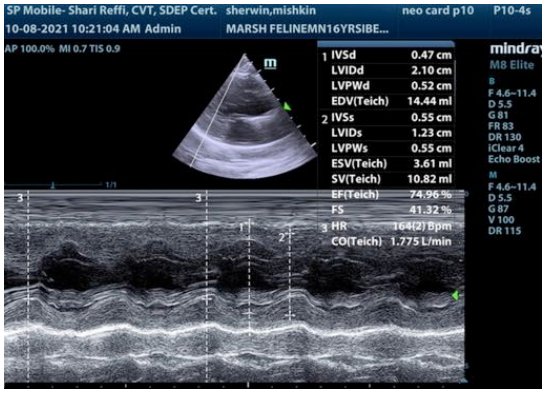

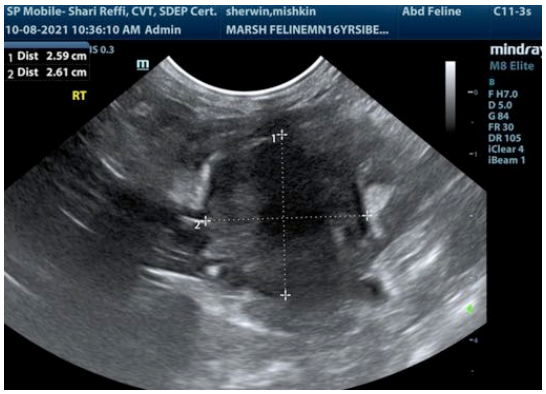

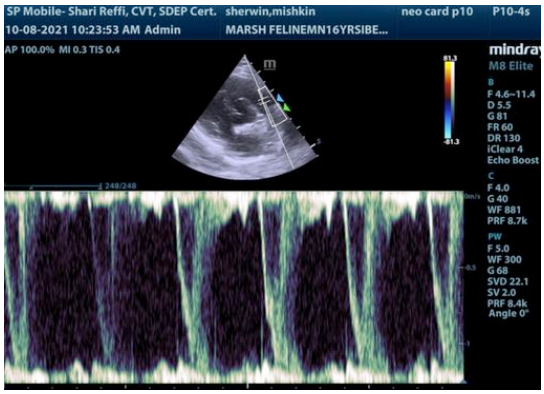

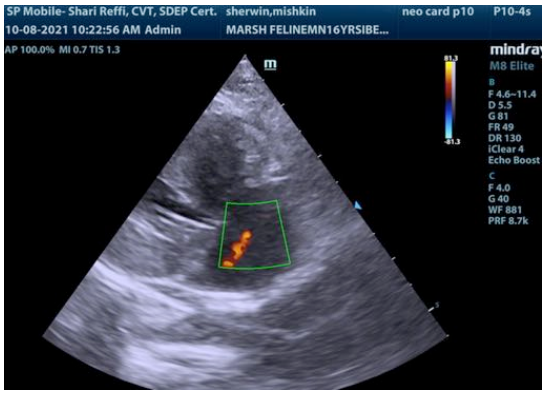

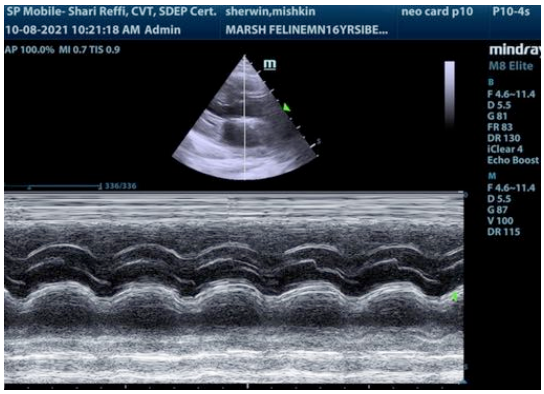

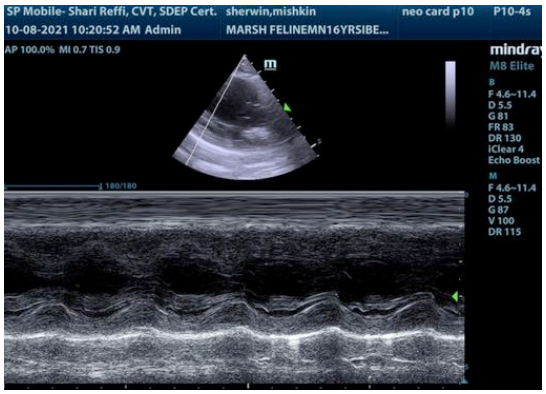

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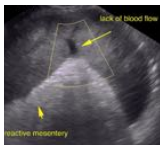
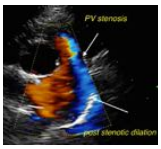
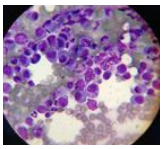
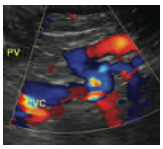

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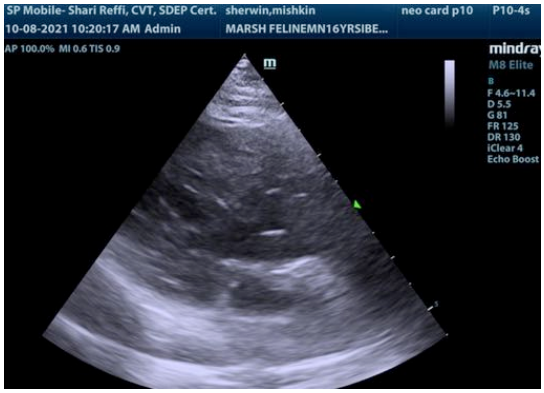

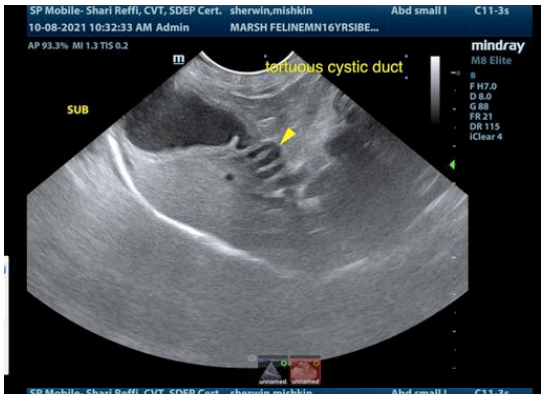

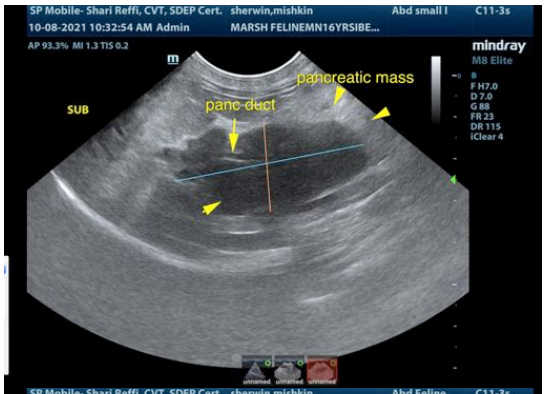

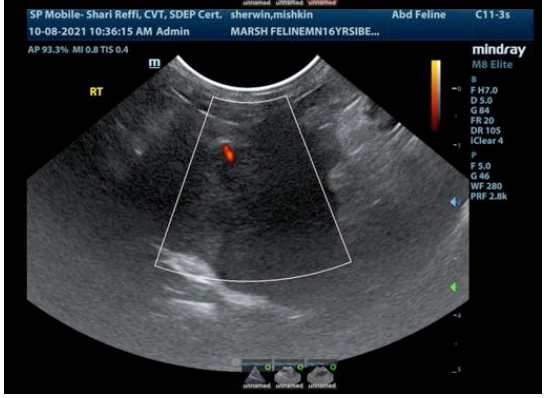

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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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