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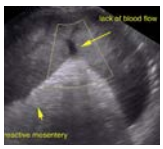
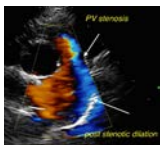
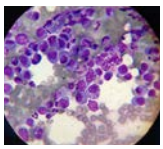
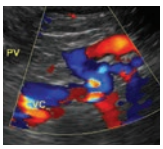

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1-800-838-4268 info@sonopath.com

PATIENT

Chloe Mandelbaum

SPECIES

Feline

BREED

DSH

SEX

Spayed Female

AGE

15 Years

WEIGHT

10 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Marsh Animal Hospital

REFERRING VET

Dr. Milwicki

INVOICE

38887

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6/20/22

PRESENTING CLINICAL SIGNS

Respiratory distress Current meds: Methimazole and Lasix

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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		192	0.41	1.67	0.40	45.2	79.8
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	--	1.34	1.7		1.4	1.05	NM

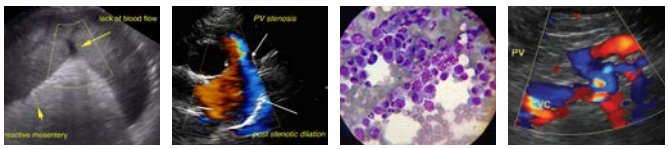
Adapted from June Boon,Veterinary Echocardiography,1998
Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705

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. 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. Minor 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). No visible **pericardial** free fluid noted. A solitary, cystic appearing structure measuring approximately 3.0 cm in diameter was present cranial to the heart, potentially within the cranial pulmonary parenchyma, or possibly adjacent to or involving the cranial mediastinal space. This cyst like structure appeared to be thinly walled and contained subjective anechoic fluid without overt evidence of fluid echogenic changes. No obvious evidence of free pleural fluid, either in the visible window, or adjacent to the cyst like structure. Likewise, no evidence of overt or obvious parenchymal changes involving or adjacent to the cyst-like structure. No overt lesions subjective of cardiac or pericardial tumors noted.

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



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sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

Normal size and margination were 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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 3.9 cm. The right kidney measured 4.3 cm.

Adrenal Glands

The adrenal glands were uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.48 cm at the cranial pole and 0.42 cm at the caudal pole.

Spleen

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age related remodeling with minor potential for inflammatory or neoplastic disease.

Liver

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion.

Gastrointestinal

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 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.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

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.

Free Abdomen

No omental masses, lymphadenopathy or peritoneal free fluid.

ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function
- Minor TR – clinically insignificant, estimated pulmonary pressure gradient not consistent with clinical pulmonary hypertension.

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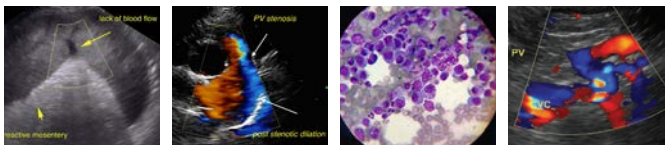

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- Unspecified cyst like lesion cranial to the heart – cyst (pulmonary cyst, inclusion cyst, or other unspecified cyst, etc.) suspected. Potential for abscess/necrosis, neoplasia, or other etiology for the unspecified cyst like lesion possible.

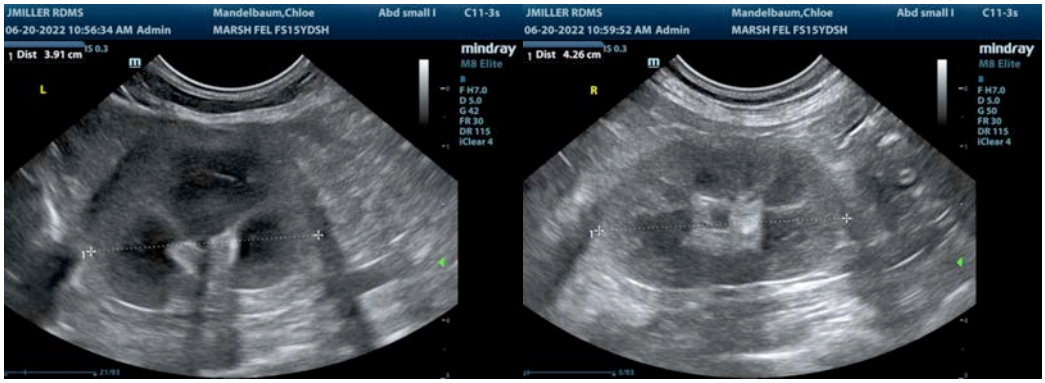
- Sonographically unremarkable, mild geriatric abdomen

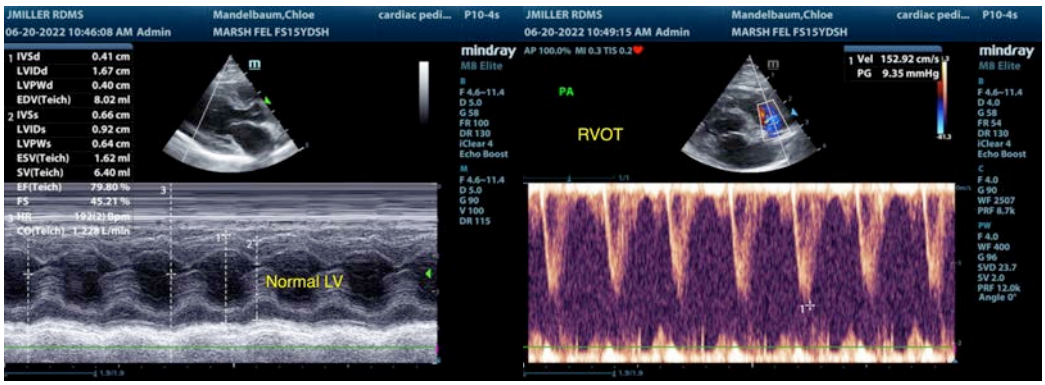
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Subjectively, the visualized cyst-like lesion noted cranial to the heart was not overtly suggestive of neoplastic criteria, although this potential cannot be definitively excluded. Likewise, given the lack of echogenic changes associated with the cyst-like fluid, abscess or necrosis may be considered a less likely differential diagnosis. Given the overall normal cardiac structure and function without clinical issues such as pulmonary hypertension, LV systolic dysfunction or left or right heart chamber enlarged, the breathing abnormalities in this patient do not appear to be cardiogenic in origin. Consideration for primary upper versus lower airway disease likely indicated.

Assuming normal clotting status, ultrasound guided FNA/centesis of the cyst-like lesion for potential drainage as well as fluid analysis and cytology +/- culture and sensitivity, if evidence of inflammatory cells, is recommended.

No overt evidence of abdominal visceral pathology, including no evidence of neoplastic criteria as a potential cause of thoracic metastasis.





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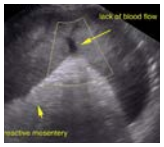
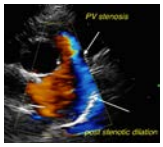
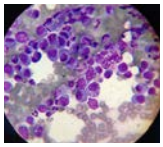
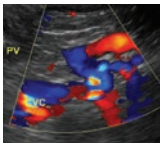

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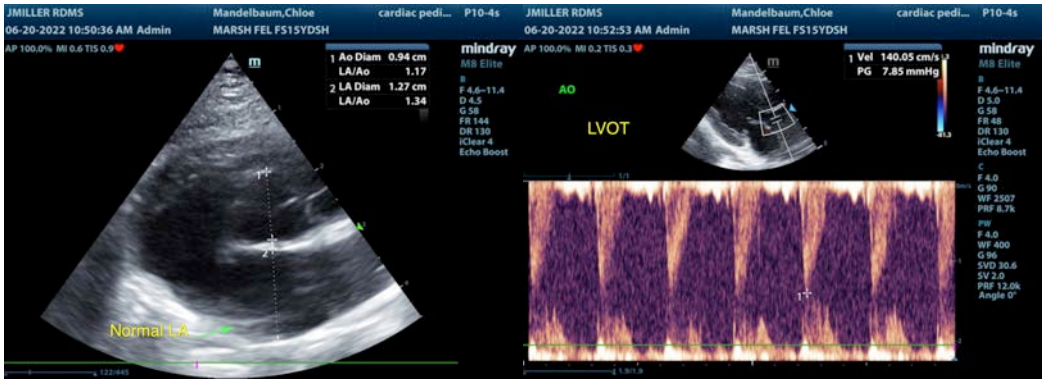

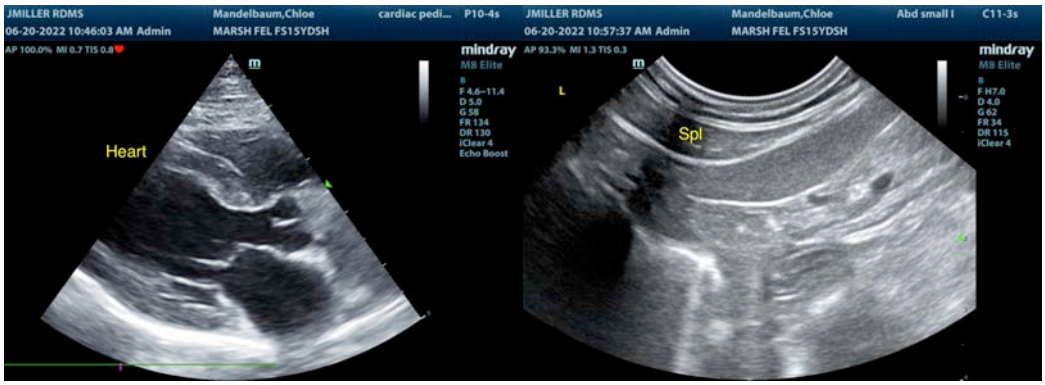

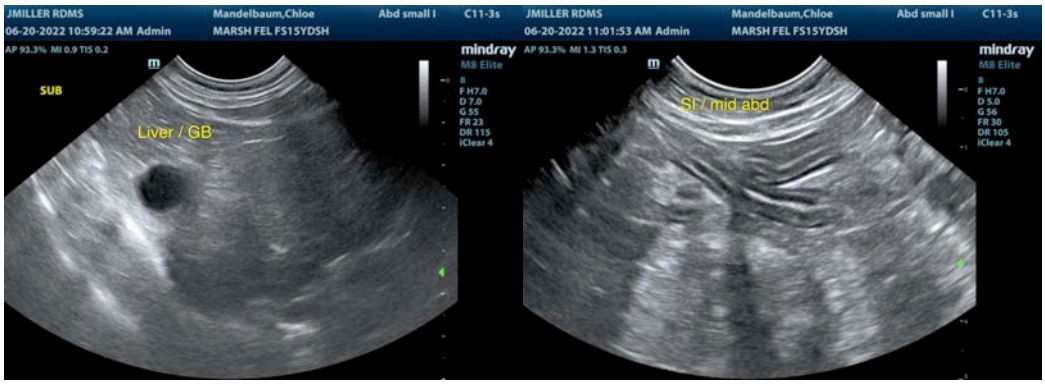

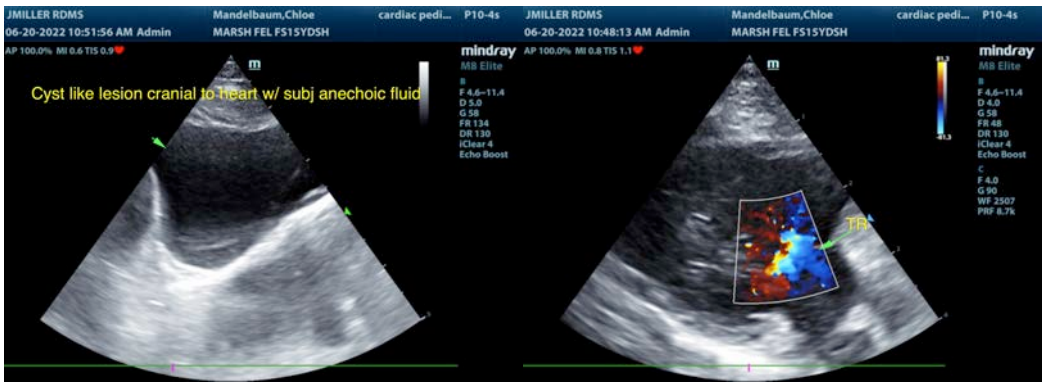

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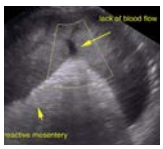
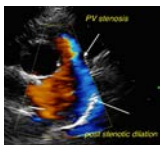
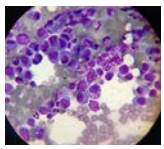
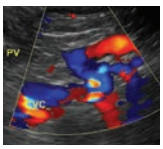

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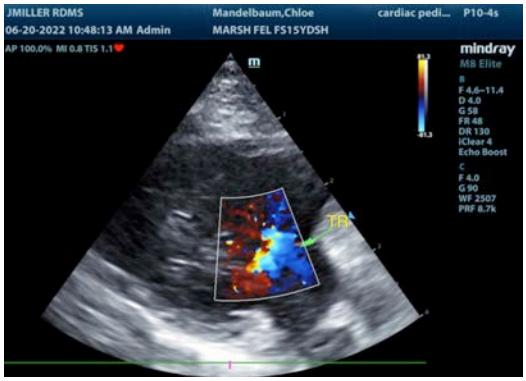

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com