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Clinical Sonography & Telecytology
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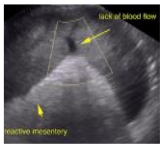
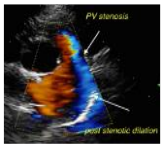
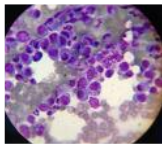
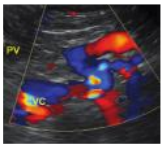




SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Munueca Ly

SPECIES

Feline

BREED

DSH

SEX

FS

AGE

12 years

WEIGHT

10.4 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton Vet

REFERRING VET

Dr. Barron

INVOICE

15678

DATE

12/21/22

PRESENTING CLINICAL SIGNS

Pleural effusion, Hx of mammary cancer

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		NM	0.45	1.5	0.45	50	84

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		1.16	1.2		0.6	NM

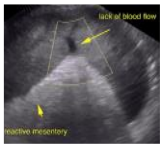
Adapted from June Boon,Veterinary Echocardiography,1998
Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705

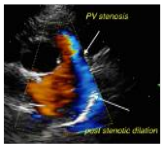
Cardiac Presentation

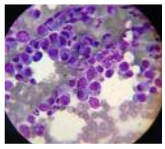
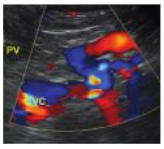
The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented normal thicknesses with linear contour and was not dilated 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. 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** effusion was present. Moderate volume pleural effusion exhibiting mild echogenic changes suggestive of pleural effusion cellularity was present. Areas of ill-defined atypical, potentially consolidated lung were noted cranial to the heart, as well as ill-defined mildly nonhomogeneous to mild irregular mass lesion adjacent to the heart and around the heart apex. The ill-defined pericardial mass lesion measured potentially 1.5 cm x 0.4 cm.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 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 was noted.

No evidence of medial Iliac or sublumbar lymphadenopathy.

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 mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 3.2 cm in length. The right kidney measured 3.8 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.44 cm width. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.52 cm width.

Spleen

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.

Liver/ Gallbladder

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. No evidence of hepatic congestive criteria. Normal appearing cranial abdominal caudal vena cava was noted. The gallbladder was non-distended in size containing primarily anechoic content with mild, echogenic, luminal gallbladder debris, likely incidental potentially secondary to fasting. The cystic and common bile ducts were normal.

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 pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum, consistent with probable age-related pancreatic changes. No signs of active inflammation or neoplastic criteria.

Free Abdomen

No omental masses, lymphadenopathy, or evidence of peritoneal free fluid were noted.

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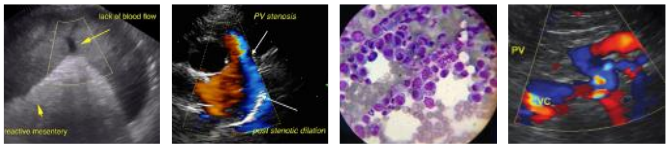

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ULTRASONOGRAPHIC FINDINGS

- Mild age-related kidneys
- Mild heterogeneous pancreas
- Mild gallbladder debris - incidental
- Overtly normal cardiac structure and function
- Noncardiogenic moderate volume pleural effusion exhibiting mild echogenic changes
- Ill-defined mild nonhomogeneous pericardial mass lesion - suspect pulmonary mass lesion vs. thoracic lymphadenopathy

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

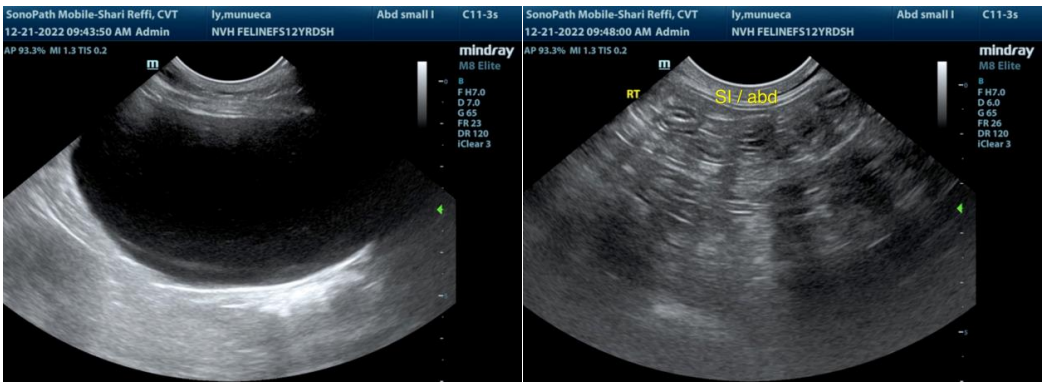
Largely geriatric abdomen without evidence of abdominal visceral pathology or primary / metastatic intraabdominal neoplastic criteria.

Pleural effusion analysis, cytology +/- C/S, if evidence of inflammatory cells, as well as if accessible, FNA cytology of the ill-defined pericardial mass is recommended for further assessment.

Neoplastic criteria for the noncardiogenic pleural effusion and ill-defined pericardial mass is favored in light of sonographic appearance and patient history of mammary carcinoma with non-neoplastic etiologies such as inflammation, infection, and less likely FIP, given the patient's age, are possible yet thought less likely. A very guarded to potential unfavorable prognosis pending effusion analysis and cytology if elected. Alternatively, thoracic CT could be considered for further assessment if possible.

SonoPath CT Services are offered at the SonoPath Imaging and Veterinary Education Center, 141 Main St (rt 206), Andover, New Jersey, a 20-minute drive west on route 80/206 North from the route 80/287 interchange/Parsippany, New Jersey. More information can be found at

https://sonopath.com/services/sonopath-ct-services



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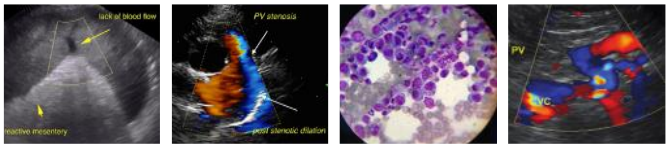

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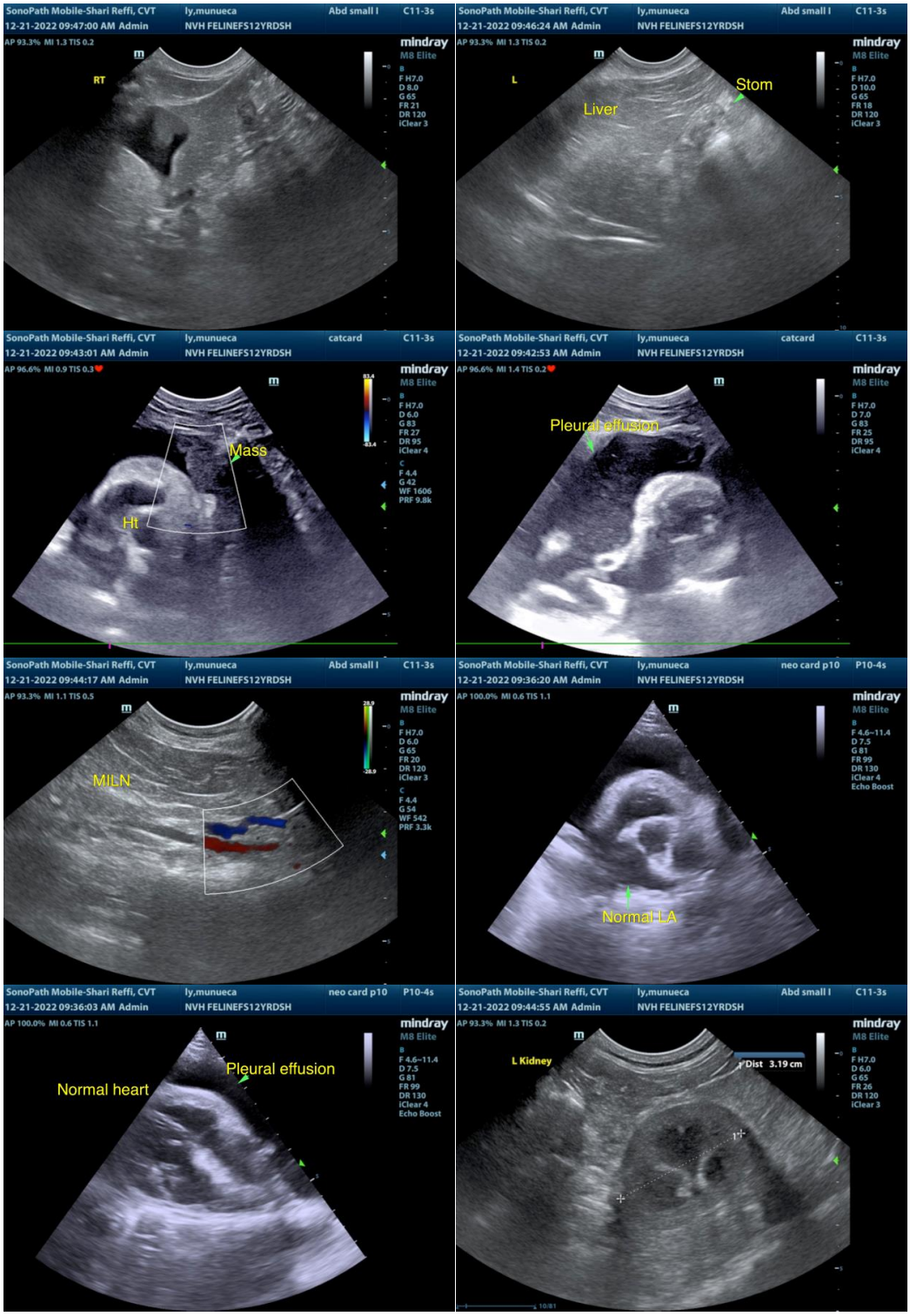

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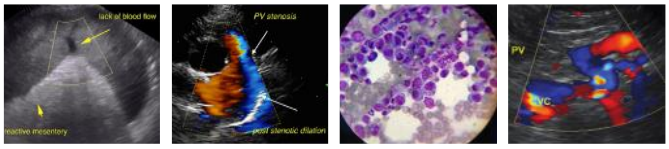

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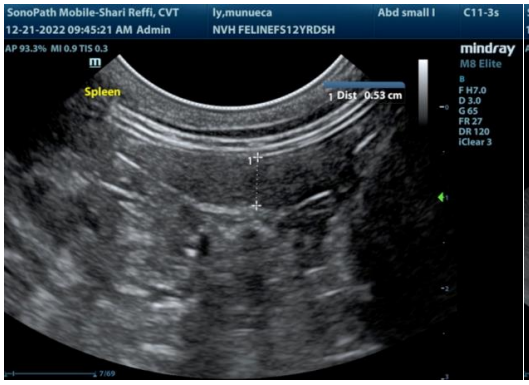

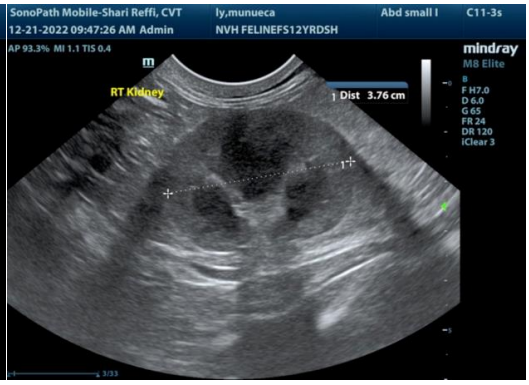

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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