



PATIENT PRESENTING CLINICAL SIGNS

PATIENT Sparky Ridner **PRESENTING CLINICAL SIGNS** History: Lethargic, decreased appetite, possible pulmonary metastatic dz/neoplasia process noted on rad report.

SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

Canine

BREED

Bichon Mix

SEX

Neutered Male

AGE

7 Years

WEIGHT

30.8 Pounds

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	--	--	NM	1.3	37	69.5	0.2
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
PATIENT	158	1.0	0.8	--	2.3	2.3	--

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

AH of Roxbury

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Dr. Elia

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Cardiac Presentation

The echocardiogram in this patient demonstrated normal to mild volume contracted **left atrial** size based on 2 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. The **left ventricle** presented borderline subjective increased thicknesses with maintained linear contour and was not dilated nor restricted. Potential LV pseudo hypertrophy, owing to decreased cardiac volume possible. 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 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 overt evidence of masses definitively associated with the right atrium and auricle noted. No overt evidence of current cardiac tamponade. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (approximately 1/3 diameter of LV), chordae structure, myocardial echogenicity with subjective potential for increased RV free wall thickness, as well as suspicious myocardial thickening in the area of the right atrioventricular groove, measuring approximately 1.5 cm x 1.3 cm. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Mild to emerging moderate volume **pericardial** effusion was present. No evidence of concurrent free pleural fluid noted. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of overt masses in the visible window. Sonographic assessment of the pericardial lung revealed comet tail artifact.



PATIENT

Urinary System

Sparky Ridner

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Primarily anechoic urine was present in the lumen. Mild nondependent particulate sediment was present without evidence of calculus formation. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic mural changes were noted.

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The residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture measuring 0.69 cm in width.

SEX

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Normal size and margination was present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 5.0 cm in length. The right kidney measured 5.3 cm in length.

AGE

7 Years

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 2.0 cm in length x 0.48 cm width at the caudal pole.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 2.4 cm in length x 0.61 cm width at the caudal pole.

WEIGHT

30.8 Pounds

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.

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Liver

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. No evidence of hepatic vascular congestion.

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Transdiaphragmatic view revealed comet tail lung pattern, which is echogenic sound wave interface with microconsolidations within the caudal lung field. The lung field should not be visualized by sonogram unless pathology is present. Chest radiographs are recommended to rule out alveolar/lung disease such as neoplasia, thromboembolic disease, chronic inflammatory disease with microconsolidation.

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The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal. Potential for very early gallbladder wall edema possible yet indistinct and not definitive.

Gastrointestinal

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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.

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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.



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

Sparky Ridner **Pancreas**

SPECIES 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.

Canine

Free Abdomen

BREED No omental masses, lymphadenopathy or evidence of ascites/peritoneal free fluid was present.

Bichon Mix

ULTRASONOGRAPHIC FINDINGS

SEX

- Pericardial effusion
- Nonspecific yet suspicious myocardial thickening in the area of the right atrioventricular groove, potentially involving the right ventricle free wall
- No overt cardiac tamponade
- Overtly normal abdomen- no overt evidence of primary intraabdominal neoplastic criteria
- Transdiaphragmatic and pulmonary comet tail artifact

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Although not definitive, yet given the presence of noncardiogenic pericardial effusion, in light of high radiological suspicion of pulmonary neoplastic or metastatic disease and highly suspicious subjective myocardial thickening in the area of the right atrioventricular groove, cardiac neoplasia, as a primary contributing factor to the pericardial effusion, is of primary concern. Additional etiologies for the pericardial effusion, (i.e., idiopathic, inflammatory, infectious, etc.), cannot be definitively excluded, yet thought less likely. A definitive mass associated with the right atrium and auricle was not visualized yet at times smaller masses may be difficult to visualize ultrasonographically.

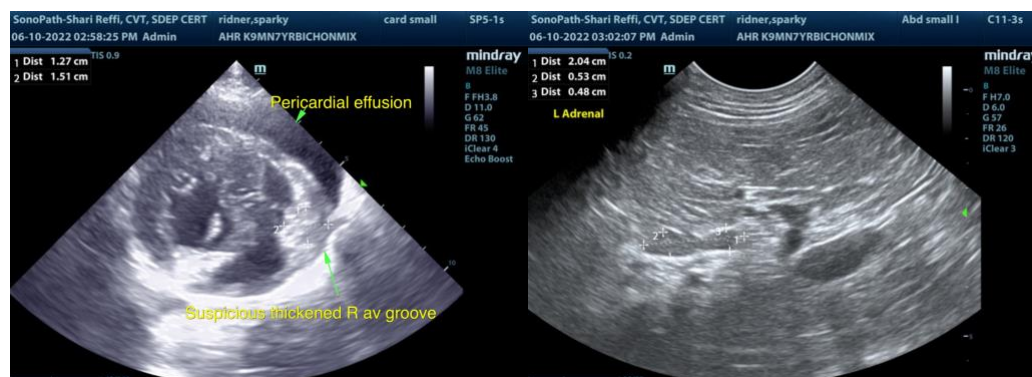
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Further assessment may include referral for pericardiocentesis with pericardial effusion analysis, cytology +/- culture and sensitivity, if clinically indicated. Thoracic CT may be considered or required for further assessment of the cardiac, pericardial and thoracic space. Very guarded to high potential long-term unfavorable prognosis is indicated.

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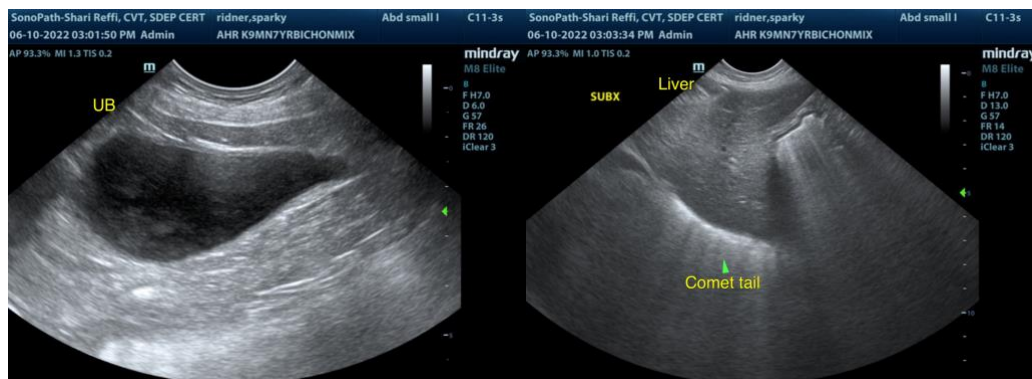
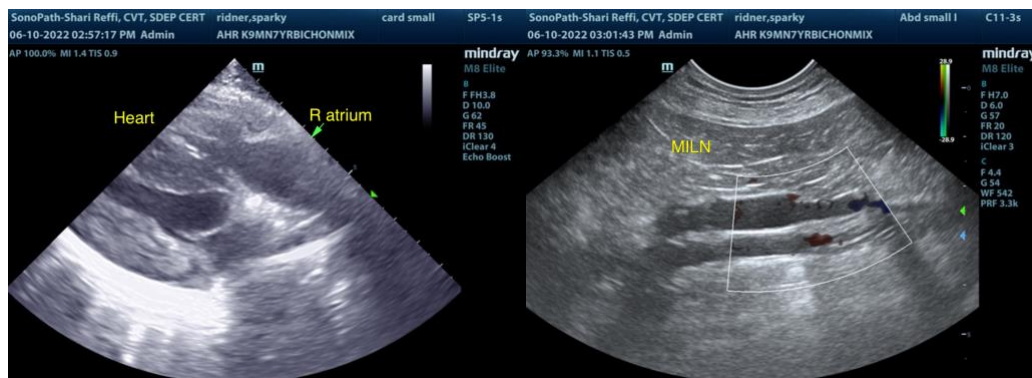
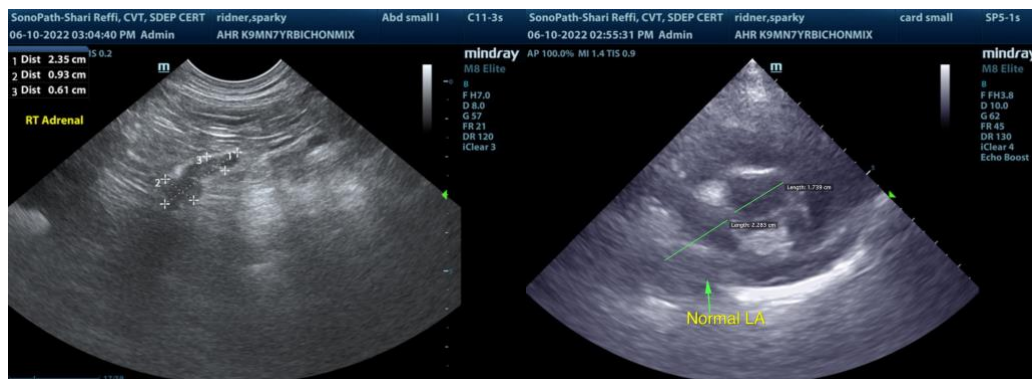
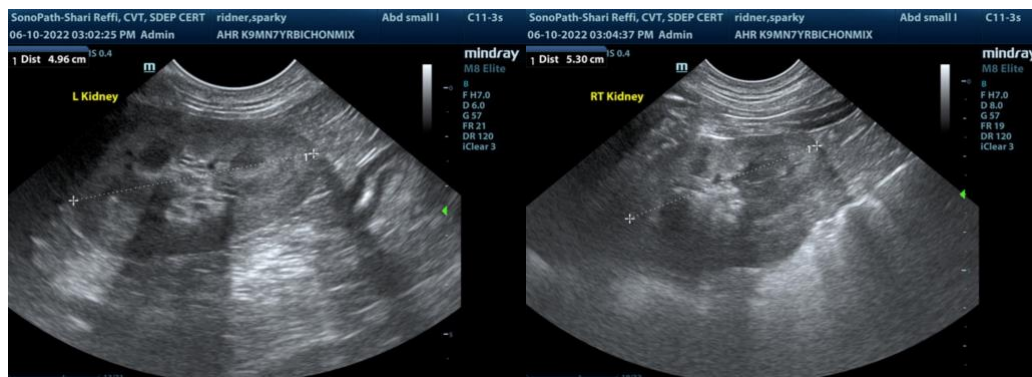
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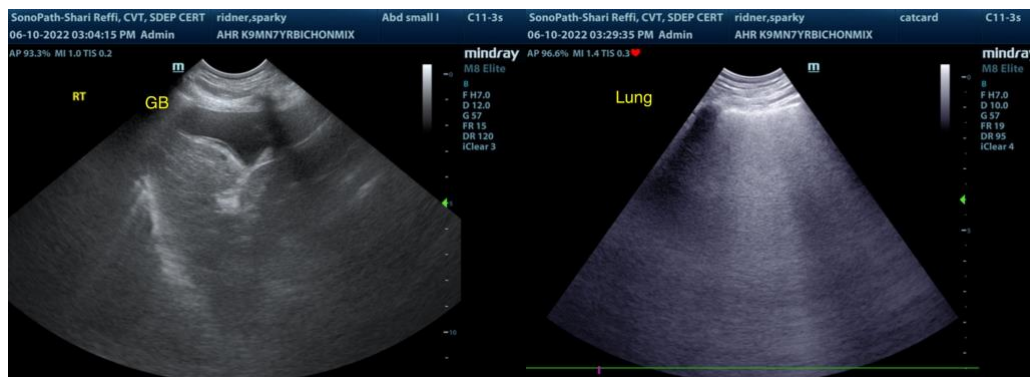
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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