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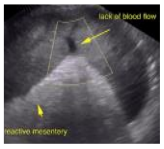

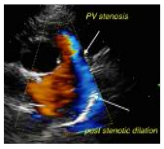

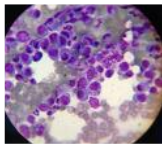
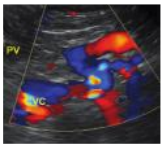


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1-800-838-4268 info@sonopath.com

**PATIENT**

Pete Iverson

**SPECIES**

Canine

**BREED**

Shepard Mix

**SEX**

MN

**AGE**

10

**WEIGHT**

76

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Jenn

**HOSPITAL NAME**

Rockaway AH

**REFERRING VET**

Dr. Maniar

**INVOICE**

15408

**DATE**

11/5/22

## PRESENTING CLINICAL SIGNS

re check, prev u/s done on 11/2 showed overtly normal cardiac function, possible arrhythmia , hepatomegaly variable sized to expansive hypoechoic intraparenchymal nodules, splenic nodules bilateral prominent to nonhomogeneous adrenal glands Patient now has 104.9 fever, not wanting to get up and had pitting edema in R front leg

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

| **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** | | | | 1.4 | 45 | 80 | 0.35 |
| **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** | NM | 1.5 | 0.94 | | 4.1 | 4.0 | |

### *Cardiac Presentation*

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 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 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 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window. No overt arrhythmia was noted in this study.

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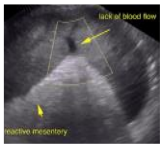
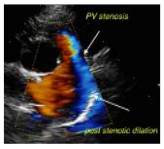
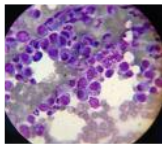
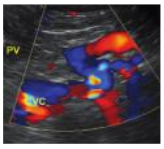

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## *Urinary System*

The urinary bladder, trigone, and cystourethral junction exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

The area of the aortic trifurcation was free of pathology.

Normal size and margination were 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 7.0 cm in length. The right kidney measured 7.7 cm in length.

## *Adrenal Glands*

The bilateral adrenal glands exhibited similar-appearing mild prominent size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without overt evidence adrenal neoplastic criteria. The left adrenal gland measured 3.1 cm length x 1.1 cm width at the caudal pole. The right adrenal gland measured 3.2 cm length x 0.93 cm width at the caudal pole.

## *Spleen*

The spleen was normal in size with areas of mild capsule asymmetry exhibiting generalized mild parenchyma heterogeneity. Discrete, static hypoechoic nondisruptive splenic nodules were present. Normal splenic vascularity was noted.

## *Liver/ Gallbladder*

The liver exhibited generalized enlargement with symmetrical contour. Generalized hepatic parenchyma echogenicity exhibiting previously noted static variably sized hypoechoic intraparenchymal nodules. An example of the nodules measured 2.0 cm in diameter. The nodules did not distort the capsule. The gallbladder was non-distended in size containing mild nondependent particulate gallbladder debris. No evidence of gallbladder or peripheral gallbladder inflammatory criteria was noted. 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 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 were evident.

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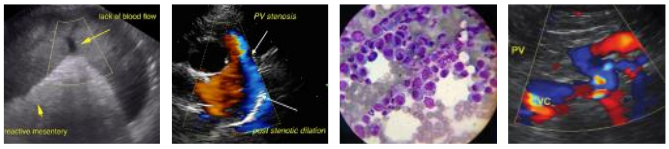


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## *Free Abdomen*

No evidence of omental lymphadenopathy or peritoneal effusion were noted. No omental masses were present.

## ULTRASONOGRAPHIC FINDINGS

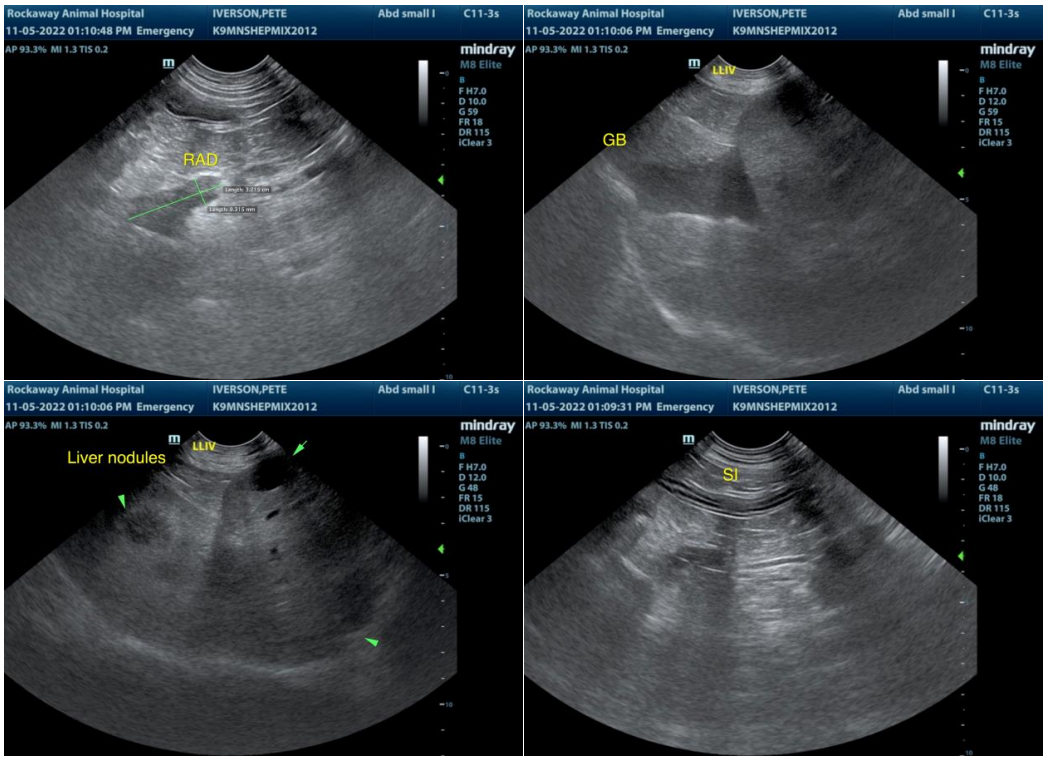
- Normal echocardiogram
- Static discrete hypoechoic splenic nodules - subjectively benign
- Static hepatomegaly exhibiting parenchyma hyperechogenicity with similar-appearing mildly expansive hypoechoic intraparenchymal nodules
- Mild gallbladder debris (non-mucocele)
- Bilateral static prominent adrenal glands - nonspecific, no adrenal tumors

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No overt evidence of structural or functional cardiomyopathy as a contributing factor to the patient's clinical signs.

Screening hepatic parenchyma and nodule FNA if accessible is recommended for further assessment. Clotting profile is recommended. Three-view chest radiographs are suggested if not done to assess for or rule out occult thoracic pathology.

ECG is suggested, given the potential for previous arrhythmia, although an overt arrhythmia was not present. Infectious disease serology could be considered if clinically indicated.



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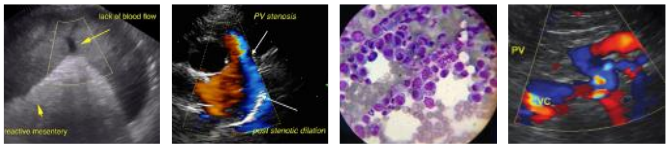

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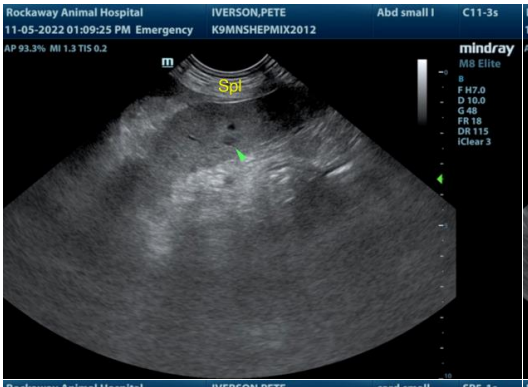


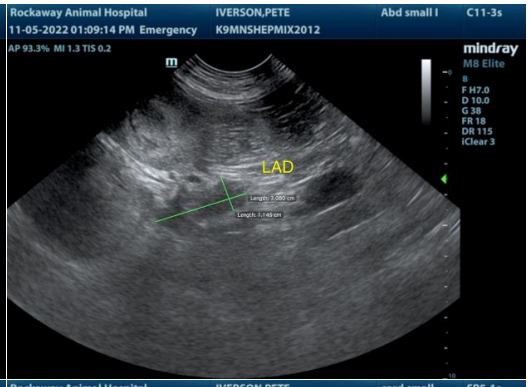


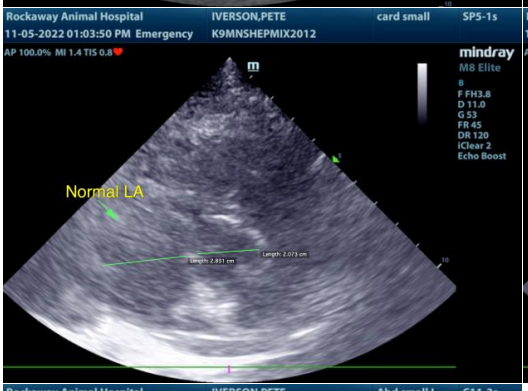


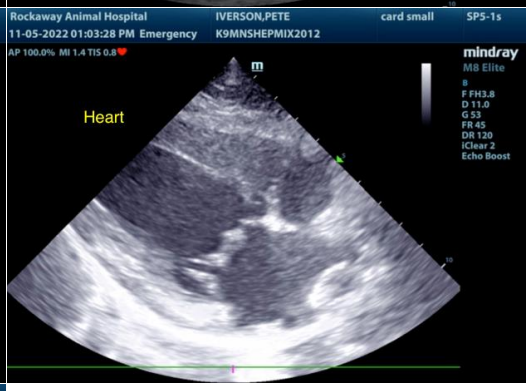



**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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)**
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