



## PATIENT PRESENTING CLINICAL SIGNS

Rocky Webb sudden onset of dyspnea, moist rales, resp rate 48 having some GI upset started lasix and doxycycline on Sept 21

## SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

Canine

BREED

Pug

SEX

Neutered Male

AGE

4 Years

WEIGHT

14 kg

| 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                 | <1.6                    | 28-40                           | 40-100                                   | <0.6                                     |
| PATIENT                   |               | 2.6           | NM                  | 1.2                     | 35                              | 67.5                                     | 0.15                                     |
| 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                   | 140           | 1.3           | 1.0                 |                         | 2.2                             | 1.94                                     |  |

### 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. Color doppler assessment revealed mild tricuspid valve insufficiency. 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.

### 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 mild dependent mineral. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

No overt pathology in the area of the aortic trifurcation or residual prostate.

### INTERPRETED BY

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

### IMAGING PERFORMED BY

Kelly Reschny

### HOSPITAL NAME

Downtown AH

### REFERRING VET

Dr. Ahn

### INVOICE

25966

### DATE

9/30/21



**PATIENT**

Rocky Webb

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 4.8 cm. The right kidney measured 5.3 cm.

**SPECIES**

Canine

**Adrenal Glands**

The left adrenal gland was mildly prominent in size, measuring 2.1 cm length x 0.78 cm at the caudal pole. The right adrenal gland measured 1.8 cm length x 0.67 cm at the caudal pole. Both adrenals exhibited subtle non-homogeneous parenchyma.

**BREED**

Pug

**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.

**SEX**

Neutered Male

**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. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

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**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. Mild luminal gas was present. Gastric body wall measured 0.30 cm.

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The duodenum presented intact yet subjective prominent wall layering with subtle segmental duodenal ileus. Duodenum wall measured 0.36 cm. The jejunum and ileum to the level of the colon were sonographically unremarkable. Jejunum wall measured 0.30 cm.

**IMAGING PERFORMED BY**

Kelly Reschny

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

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**ULTRASONOGRAPHIC FINDINGS**

**REFERRING VET**

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- Overtly normal cardiac structure and function
- Mild tricuspid valve insufficiency – suggestive of mild elevated pulmonary pressures, yet not consistent with clinical pulmonary hypertension.

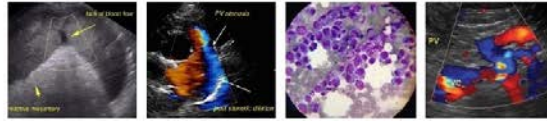
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- Urinary bladder sand
- Possible mild duodenitis

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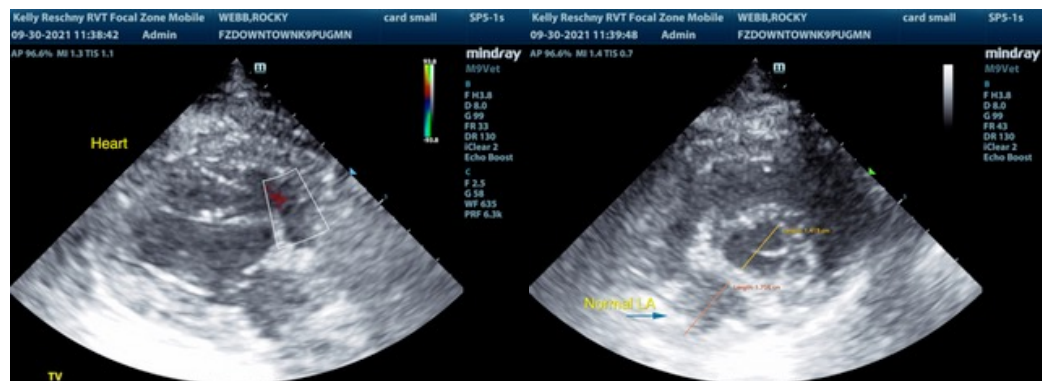
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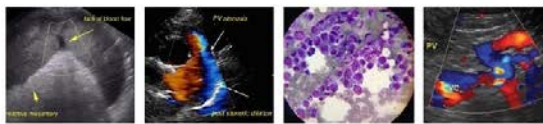
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No evidence of significant structural or functional cardiomyopathy including no evidence of systolic dysfunction or clinical pulmonary hypertension noted. The lack of left atrial enlargement as well as lack of clinical pulmonary hypertension indicates that the respiratory signs in this patient are non-cardiogenic in origin. Primary lower airway disease is suspected. If not done, 3-view chest radiographs are recommended. Continued respiratory support including Doxycycline trial with assessment of clinical response would be appropriate. No indication for cardiac medications. Urine culture and sensitivity on sterile urine sample recommended given the presence of urinary bladder mineral. No overt indication of a portosystemic vascular anomaly. Continued as-needed gastrointestinal support would be appropriate.





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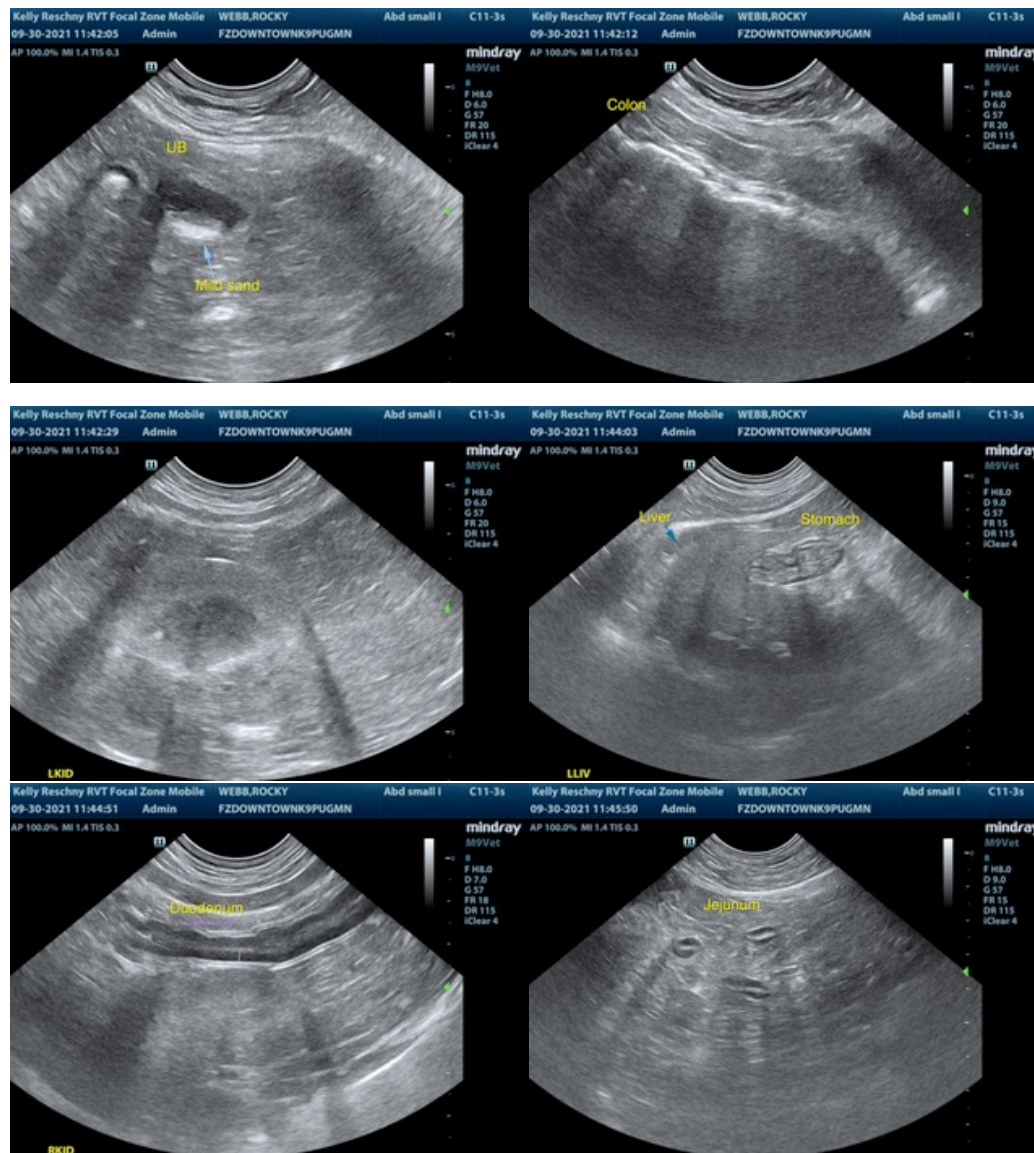
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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