



**PATIENT PRESENTING CLINICAL SIGNS**

Willie Bratley

History: Presented in January 2022 for evaluation of vomiting after licking carpet for hours that had been occurring for about 1 year. Patient has been a little more anxious and owner reports he does lick the stomach too. Has been on omeprazole and trazodone. Owner is concerned for stress versus underlying GI disease as the trazodone makes him sleep; and therefore vomiting/carpet licking isn't happening. New heart murmur ausculted in April 2022.

**SPECIES**

Canine

Abnormal PE/Chem/CBC/UA Results: Abnormal laboratory findings: January 2022 - CBC, Chem 17, T4 all unremarkable. Other diagnostics available (ie. Blood pressure, radiographs, etc): Thoracic and abdominal radiographs have been submitted. BP - 177/116 MAP 127, HR 120 Abnormal physical exam findings: Weight loss of 10 pounds since December 2020 (BCS of 6/9 and now is 4/9). BAR attitude, minimal dental calculus. No pain on abdominal palpation.

**BREED**

Cavalier King Charles

**SEX**

Neutered male

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. 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 or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. 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** or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window. Periodic arrhythmia was noted in this patient and may be sinus arrhythmia, yet EKG is indicated.

**AGE**

7 years

**WEIGHT**

10.7 kg

**INTERPRETED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Stegemoller

**HOSPITAL NAME**

North Idaho AH

**REFERRING VET**

Dr. Mehra

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4/28/22

| 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                   | 5.5           |               | 1.0                 | 1.0                     | 45                                | 90   | NM   |
| 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                   |               | 1.5           | 0.6                 | 10.7                    | 2.8 max                           | 2.0  |  |



**PATIENT** **ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Willie Bratley

**Urinary System**

**SPECIES**

Canine

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

**BREED**

Cavalier King Charles

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 5.5 cm. The left kidney measured 5.5 cm.

**SEX**

Neutered male

**AGE**

7 years

**Adrenal Glands**

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 1.7 x 0.46 cm at the cranial pole and 0.4 cm at the caudal pole. The right adrenal gland measured 1.5 x 0.54 cm at the cranial pole and 0.6 cm at the caudal pole.

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**Spleen**

The **spleen** revealed a focal, hypoechoic 1.0 cm irregular nodule at the mid caudal body. A separate nodule was noted and measured 0.7 cm in the mid cranial body. The remainder of the spleen was unremarkable.

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**Liver**

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

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**Gastrointestinal**

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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**PATIENT**

**Pancreas**

Willie Bratley

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

**SPECIES**

Canine

**ULTRASONOGRAPHIC FINDINGS**

**BREED**

Stage B1 valvular disease.

Cavalier King Charles

Splenic nodules, concern for emerging round cell neoplasia versus less likely hemangiosarcoma. Nodular hyperplasia is a strong potential.

**SEX**

Neutered male

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**AGE**

7 years

B1: The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflurane maintenance or similar protocol if anesthesia is desired. Blood pressure recommended if not already performed and target white coat negative systolic pressure of < 160 mmHg. If higher than this ACE-inhibitor is suggested to reach this level. Recheck echocardiogram is recommended in 6 months, earlier if murmur grade increases or clinical signs initiate.

**WEIGHT**

10.7 kg

FNA of the splenic nodules or direct proactive splenectomy is indicated even though the lesions may be benign. The cause of hypertension is not evident or relatable to visceral disease. Given the weight loss the splenic nodules are of concern. Chest radiographs are warranted if not already performed.

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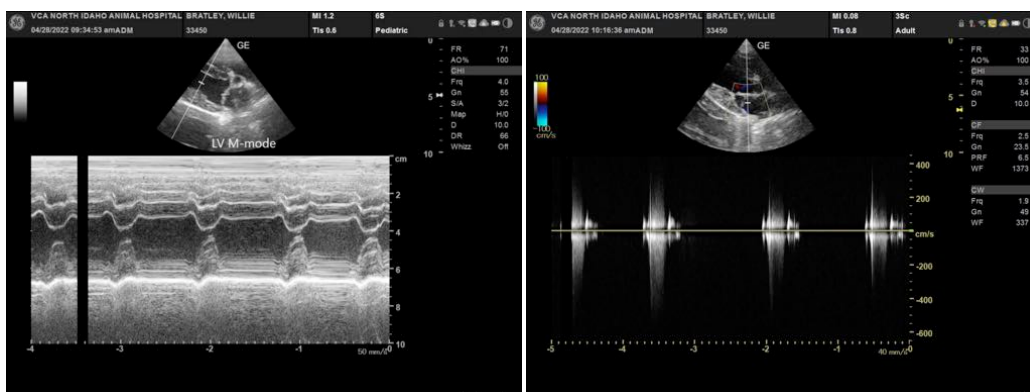
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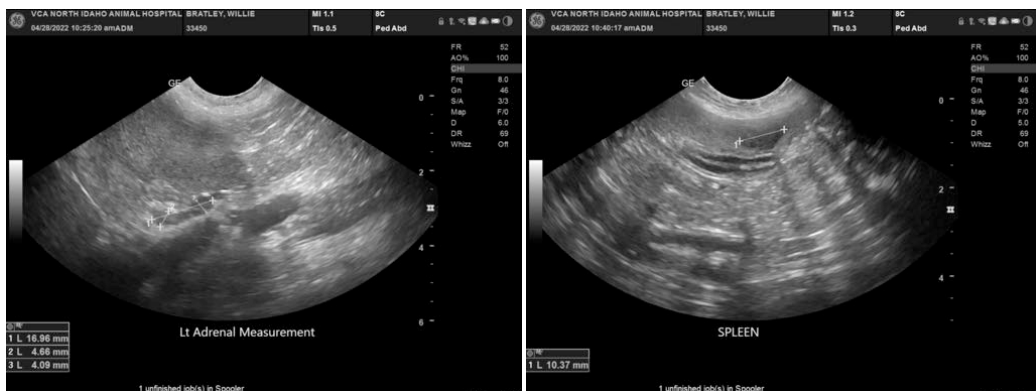
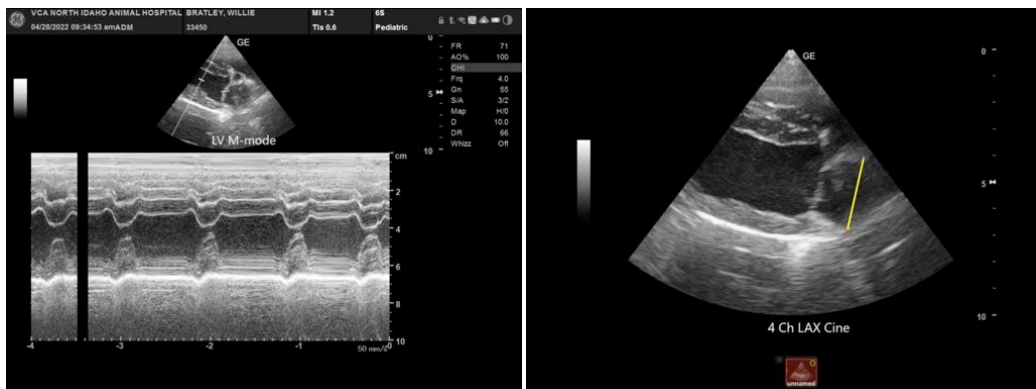
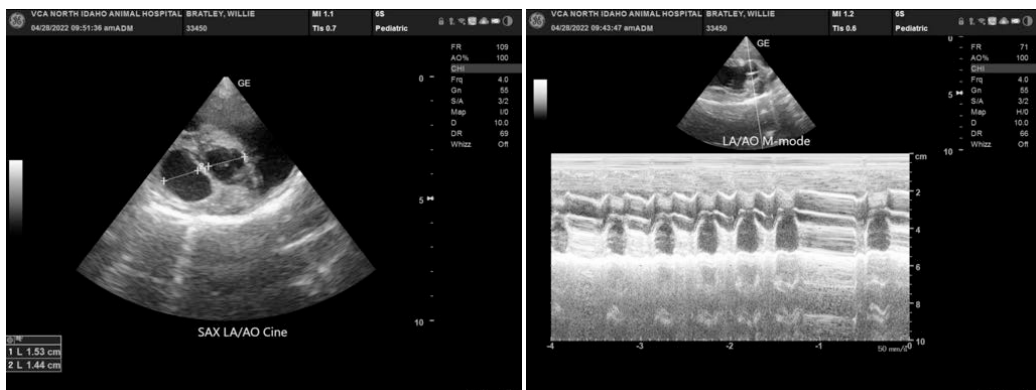
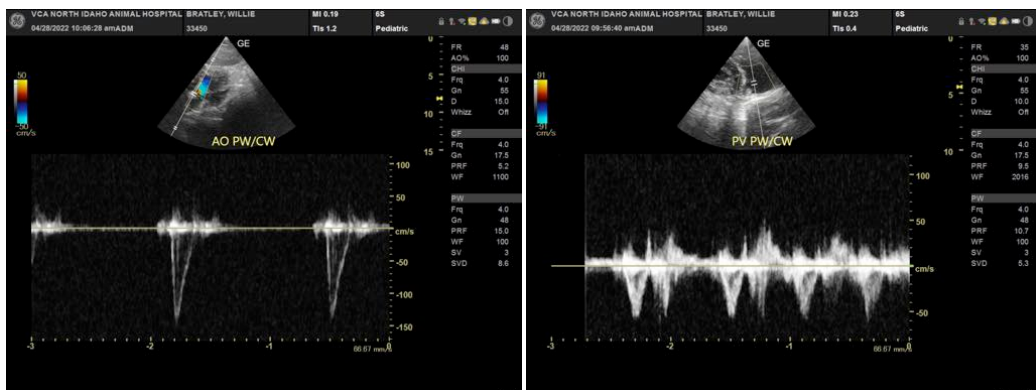
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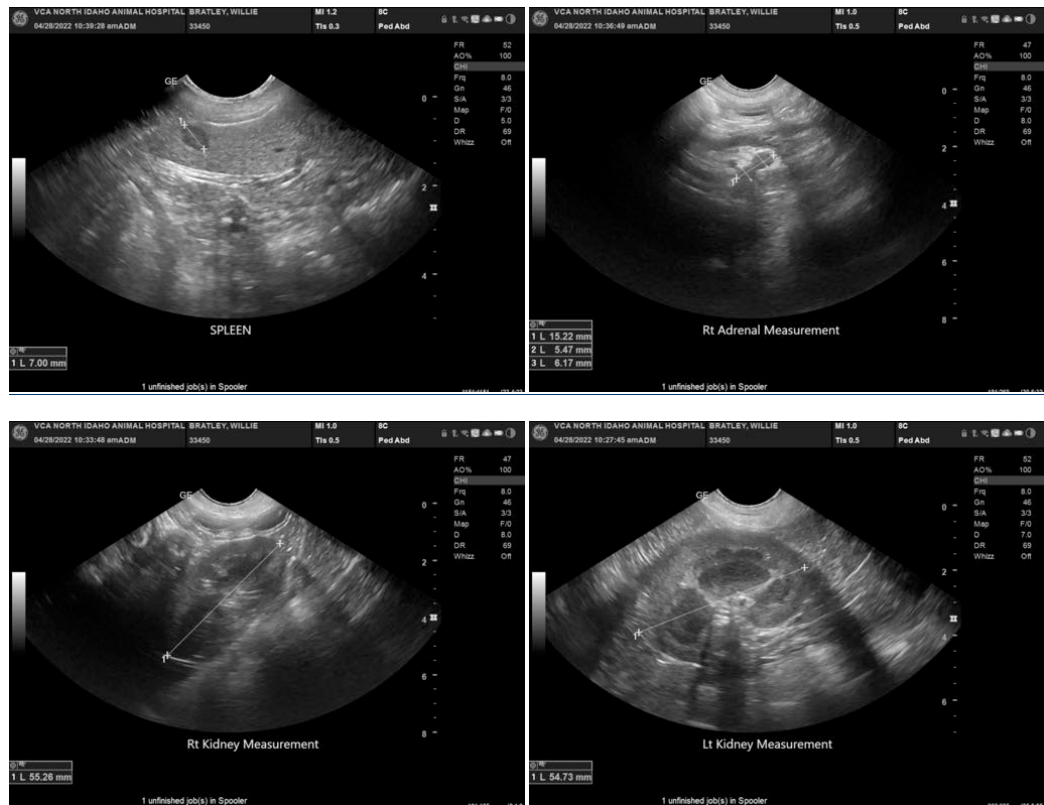
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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info@SonoPath.com