


PATIENT

Max Simone

PRESENTING CLINICAL SIGNS

 Weight loss, drooling, vomiting, grade 3/6 systolic heart murmur. Radiographs showed calcifications liver/biliary tract, gastric tympany. On Cerenia 24 mgs SID, famotadine 5mgs BID.
 Abnormal PE/Chem/CBC/UA Results: ALT 219, lipase 1055.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN
BREED

Cavalier King Charles

SEX

Neutered Male

AGE

11 Years

WEIGHT

17.5 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 | <1.6 | 28-40 | 40-100 | <0.6 |
| PATIENT | 5.5 | 3.0 | 1.1 | 1.31 | 38.1 | 71.7 | 0.27 |
| 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 | 100 | 1.0 | 0.8 | | 3.4 | 3.15 | |

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

North Jersey AH

REFERRING VET

Dr. Mark Reidel

INVOICE

34023

DATE

1/6/22

Cardiac Presentation

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 eccentric 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** valve revealed concurrent mild vegetative changes with subjective moderate insufficiency on color doppler assessment. 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). Minor insufficiency noted on color doppler assessment measuring 1.2 m/sec. 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.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of – cm 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 were noted.



| | |
|--|--|
| PATIENT | The residual prostate was free of pathology. |
| Max Simone | The area of the aortic trifurcation was free of pathology. |
| SPECIES | 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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 5.0 cm. The right kidney measured 4.0 cm. |
| Canine | |
| BREED | Adrenal Glands |
| Cavalier King Charles | The adrenal glands were uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 1.4 cm length x 0.34 cm at the caudal pole. The right adrenal gland measured 1.5 cm length x 0.66 cm at the caudal pole. |
| SEX | Spleen |
| Neutered Male | 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. |
| AGE | Liver |
| 11 Years | |
| WEIGHT | The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. Focal intermittent areas of minor non-obstructive biliary tree mineral were present. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was mildly distended in size without overt evidence of post-hepatic obstruction. Mild non-obstructive mineral was present in the gallbladder lumen. The gallbladder was likely mildly distended owing to fasting/decreased food intake. |
| 17.5 Pounds | |
| INTERPRETED BY | Gastrointestinal |
| R. McKenzie Daniel, DVM, DABVP (Canine and Feline) | The stomach exhibited moderate to severe yet variable mural thickening exhibiting primarily intact yet regionally indistinct wall layering. Stomach wall measured up to 1.4 cm in width. Mild retained anechoic fluid was present in the stomach without evidence of retained ingesta or overt foreign material. Regional perigastric increased omental echogenicity noted. |
| IMAGING PERFORMED BY | HOSPITAL NAME |
| Kelly Vazquez | Fluid dilation continued into the duodenum with intact discernable duodenal wall layering. Duodenum wall measured 0.50 cm. The jejunum and ileum to the level of the colon were sonographically unremarkable. Jejunum wall measured 0.50 cm. |
| HOSPITAL NAME | REFERRING VET |
| North Jersey AH | Normal visible colon wall layers were present with apparent formed feces in lumen. |
| REFERRING VET | Pancreas |
| Dr. Mark Reidel | 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. Low-grade pancreatitis is a potential given the amylase elevation, yet the amylase may also be reactive owing to gastroduodenal inflammation or other pathology. |
| INVOICE | Free Abdomen |
| 34023 | Overt evidence of lymphadenopathy not noted. No effusion. |
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ULTRASONOGRAPHIC FINDINGS

- Myxomatous mitral valve disease (ACVIM B1)
- Moderate TR – estimated pulmonary pressure gradient (approximately 36 mmHg) suggestive of mild elevated pulmonary pressures, yet not overtly consistent with clinical pulmonary hypertension.
- Minor pulmonic valve insufficiency – not considered clinically significant.
- Moderate to severely thickened stomach with associated gastric stasis, regional perigastric reactive mesentery
- Concurrent duodenitis
- Hepatic parenchymal remodeling exhibiting focal intermittent non-obstructive biliary tree mineralization
- Mildly distended gallbladder with mild non-obstructive luminal mineral

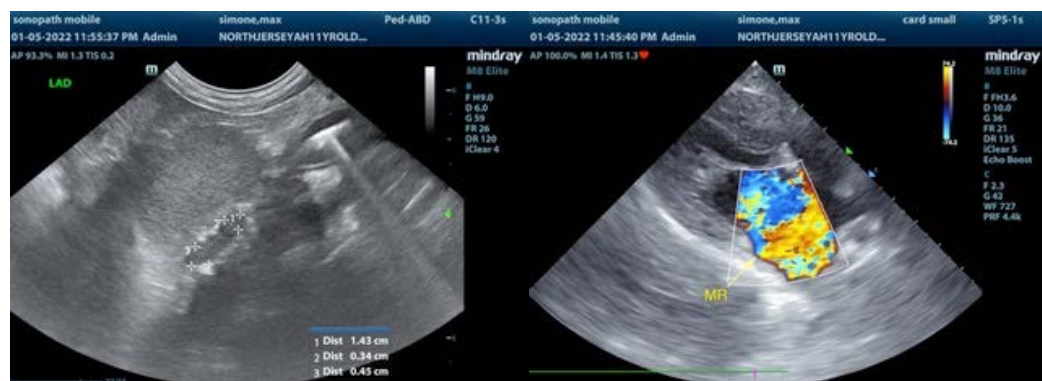
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is low at this time and, without current clinical signs, indicates that medical therapy is not required. Conservative monitoring is recommended with a recheck echocardiogram in 6-12 months, sooner if clinical signs suggestive of heart disease develop. No overt anesthetic contraindications.

The cause of the patient's clinical signs may include severe gastritis, infectious gastropathy (helicobacter), with warranted concern for potential neoplastic gastric mural disease, or other gastropathy/gastroduodenopathy. Endoscopic gastric biopsies would be ideal for definitive diagnosis if possible. Continued aggressive gastroprotectants protocol and as needed gastrointestinal support would be appropriate. Some or all of the following protocol may be considered.

Helicobacter/Gastritis protocol

A clinical trial of **Zithromax (Dogs: 5-10 mg/kg p.o. q24h. May increase dosing interval to q48h after 3-5 days of treatment), Metronidazole (10-20 mg/kg p.o. b.i.d.), Pepcid (0.5-1 mg/kg s.i.d.) and Sucralfate (0.5-2 g/dog PO) or Omeprazole (1 mg/kg p.o. s.i.d.)** over the next 3 weeks along with a **novel-protein or hydrolyzed diet** with slurry feeding b.i.d./t.i.d. over the next 2-4 days and then increase to canned diet bid. Dry food should be avoided over the next 4 weeks. A recheck sonogram to assess GI improvement or progression would be ideal in 4 weeks.





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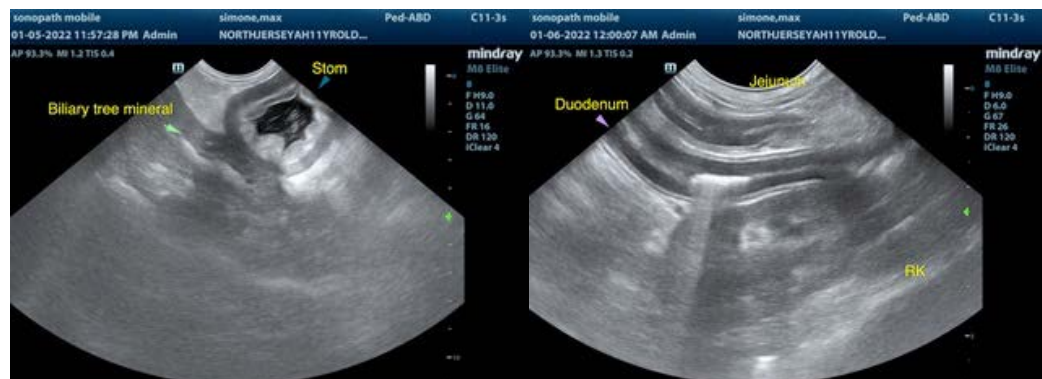
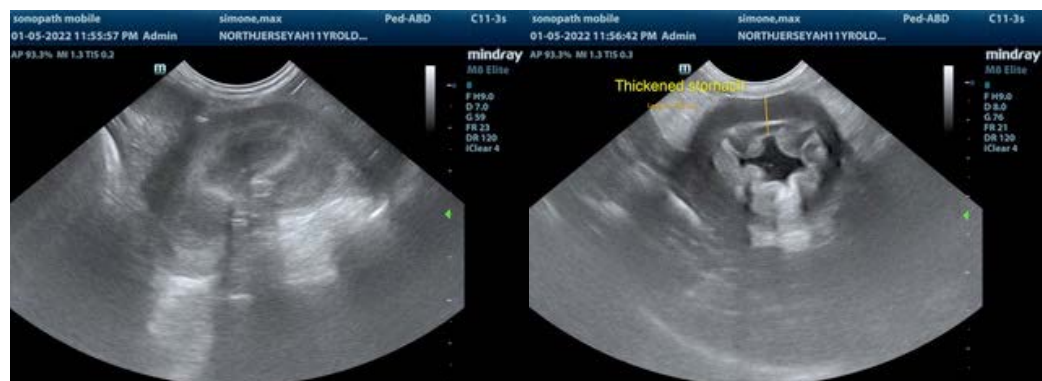
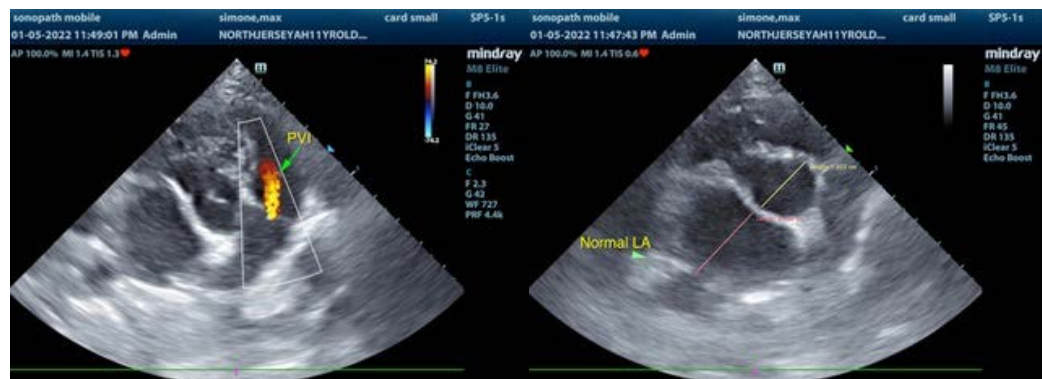
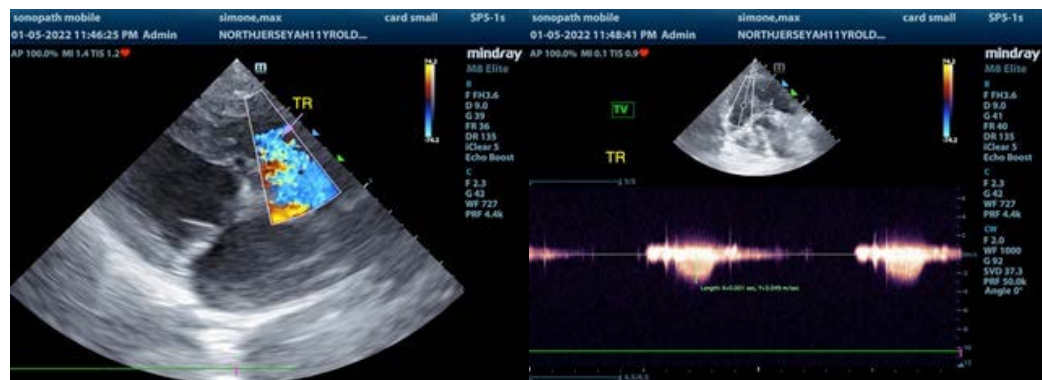
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com