



PATIENT

Samantha Werbel

SPECIES

Feline

BREED

DSH

SEX

Spayed Female

AGE

15 Years

WEIGHT

14 Pounds 13 Ounces

PRESENTING CLINICAL SIGNS

History: Weight loss, obstipation issues. Current med: Lactulose.

Abnormal PE/Chem/CBC/UA Results: Blood work: WNL. USG: 1.022.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

| FELINE CARDIAC PARAMETERS | BODY WEIGHT (kg) | HR (BPM) | IVSd (cm) | LVIDd (cm) | LVWd (cm) | FS (%) | EF (%) |
|---|------------------|---------------------------|--|-----------------|-----------------|-----------|--------|
| NORMAL PARAMETER | ----- | 150-240 | 0.3-0.6 | 1.0-2.1 | 0.25-0.6 | 35-67 | 80-100 |
| PATIENT | -- | 14 | 0.45 | 1.19 | 0.45 | 39 | 74 |
| FELINE CARDIAC PARAMETERS | LA/AO (Boon) | LA/AO HEART BASE (Sisson) | LA 2D 4-chamber long axis AS to FW (Sisson) (cm) | LVOT VEL. (m/s) | RVOT VEL. (m/s) | IVRT (m/) | |
| NORMAL PARAMETER | <1.5 | 0.88-1.79 | 0.7-1.7 | <1.6 | <1.3 | 40-60 | |
| PATIENT | 1.2 | 1.1 | -- | 1.18 | .81 | NM | |
| Adapted from June Boon, Veterinary Echocardiography, 1998 | | | | | | | |
| Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705 | | | | | | | |

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Marsh AH

REFERRING VET

Dr. Milwicki

INVOICE

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7/1/22

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented normal 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 and angles 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 and kinetics. 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 or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

Urinary System

The **urinary bladder** revealed sand accumulation, up to 1.3 cm. The pelvic urethra was imaged 3.0 cm beyond the cystourethral junction.

The **kidneys** revealed moderate degenerative changes with irregular contour and echogenic remodeling. The right kidney measured 4.05 cm. The left kidney measured 4.02 cm.



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Adrenal Glands

The **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 0.38 cm. The right adrenal gland measured 0.4 cm.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

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.

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.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some minor parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxyphoid palpation then low-grade smoldering chronic pancreatitis should be suspected. The left limb measured 0.86 cm.

ULTRASONOGRAPHIC FINDINGS

- Normal echocardiogram- no evidence of cardiac disease
- Minor urinary bladder sand
- Age-related pancreatic changes
- Mild to moderate degenerative renal changes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Medical management for the bladder sand should prove effective with diet change. Culture warranted if any pyuria is present. The cause of weight loss is unclear. No evidence of neoplasia. Maldigestion panel, three view chest radiographs and full CNS examination is recommended to examine for occult



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disease that could be responsible for the weight loss. Evaluation for competitive eating environments should also be considered.

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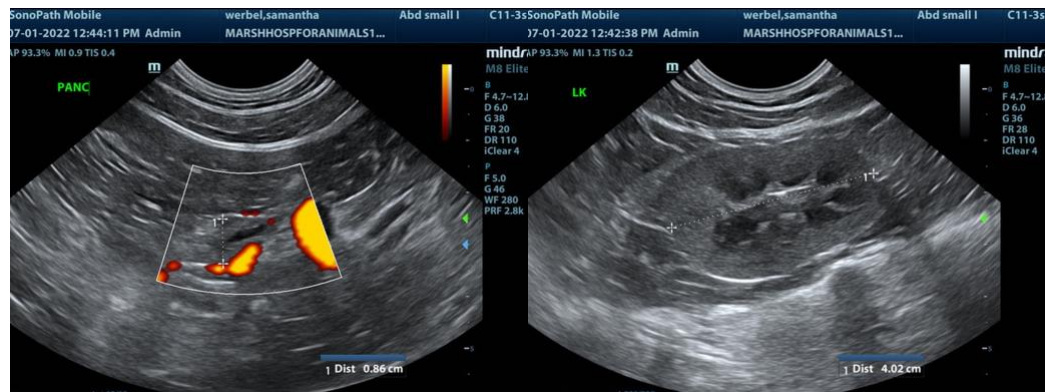
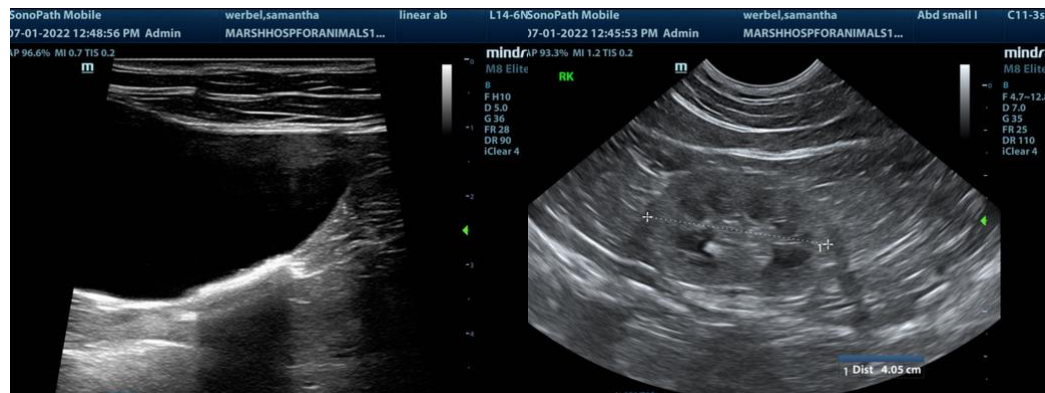
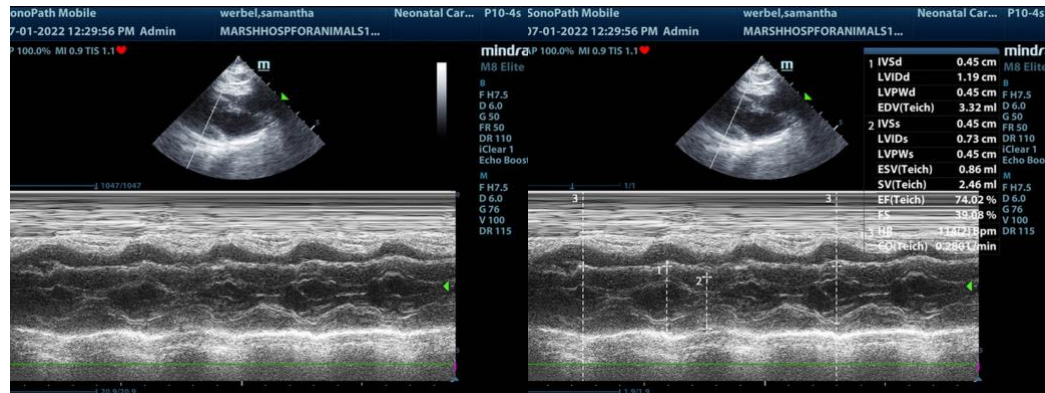
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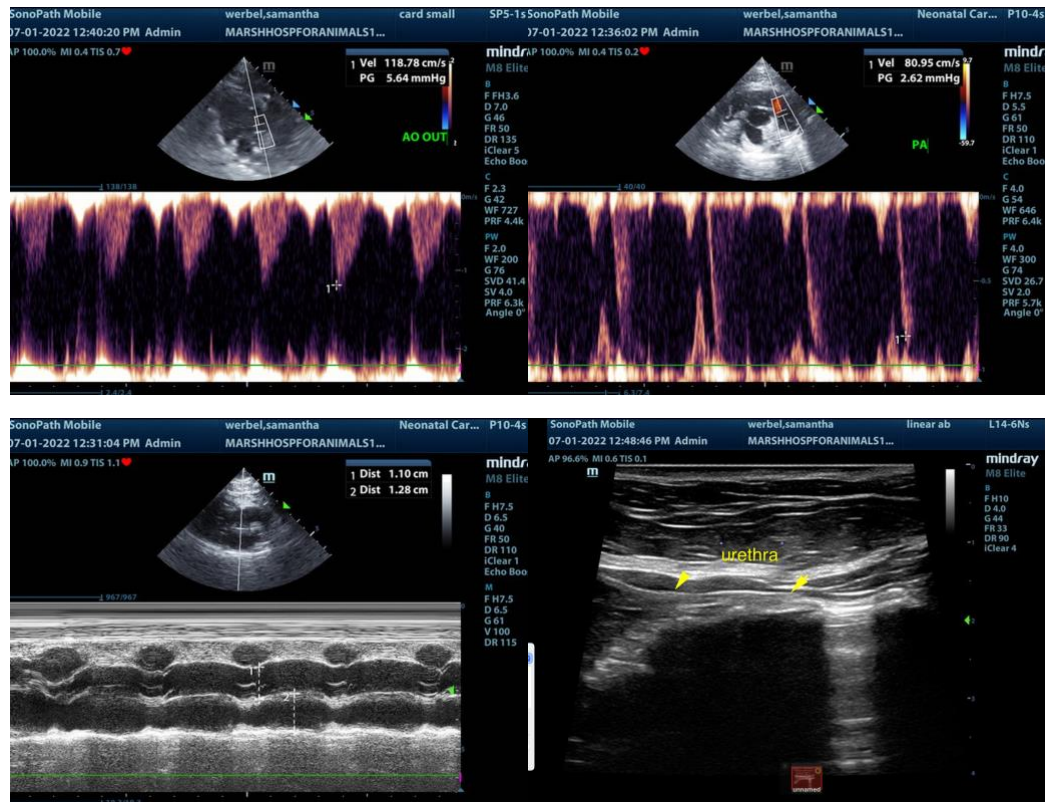
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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