

PATIENT

Winston Warner

SPECIES

Canine

BREED

Boston Terrier

SEX

Neutered Male

AGE

13 Years

WEIGHT

28 Pounds

INTERPRETED BY

Eric Lindquist, DMV,
DABVP (Canine &
Feline), Cert. IVUSS

IMAGING PERFORMED BY

Chloe Lowe, CVT

HOSPITAL NAME

Mt. Olive VH

REFERRING VET

Dr. Logan

INVOICE

37343

DATE

6/5/26

PRESENTING CLINICAL SIGNS

History: Ascites, heart murmur, cough. Metronidazole.
Abnormal PE/Chem/CBC/UA Results: Alb 2.4, TP 4.9

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	5.58	3.5	2.6	--	29	57	0.27
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (lbs)	LAD LA MAX 4 Chamber	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	155	1.10	--	28	5.12	2.9	--

E-wave velocity: 1.4

Cardiac Presentation

The **cardiac presentation** in this patient presented volume overload in left and right atria, and volume overload in all four chambers owing to valvular disease. Moderate to severe mitral and tricuspid insufficiency were noted. No evidence of heart-based masses or pericardial fusion. Hepatic vein dilation was present with secondary ascites.

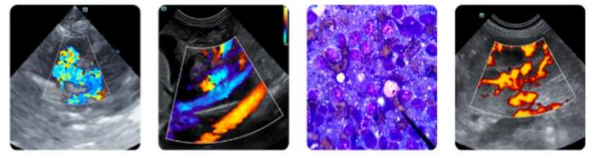
ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

At least two separate calculi were noted in the **urinary bladder**, measuring 0.75 cm and 0.49 cm.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some mild age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The left kidney measured 4.5 cm. The right kidney measured 4.5 cm.

Adrenal Glands



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The **left adrenal gland** was 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 1.3 cm x 0.61 cm at the caudal pole and 0.76 cm at the cranial pole.

The region of the **right adrenal gland** revealed no evident pathology.

Spleen

The **spleen** was largely smooth with subtle heterogeneous parenchymal changes while maintaining normal echogenic relationship to the liver and kidney. These changes are mild and consistent with normal age-related alteration. The capsule was smooth without noticeable impingement from within the spleen or from pathology in the adjacent abdomen. The splenic vasculature demonstrated normal volume without signs of congestion or significant contraction. No evidence of active acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

Liver

The **liver** was swollen. An expansive hypoechoic nodule was noted in the left lateral liver, measuring 1.6 cm. Increased portal markings were noted. Heterogenous parenchymal changes were noted. The hepatic veins were dilated, consistent with passive congestion. Secondary ascites was noted. The vena cava measured 1.4 cm at the level of the diaphragm. The gallbladder and common bile duct were unremarkable.

Gastrointestinal

The **gastric** wall was particularly thickened, measuring up to 1.3 cm with minor retention of ingesta. The small intestine and colon were unremarkable with normal curvilinear patterns and content.

Pancreas

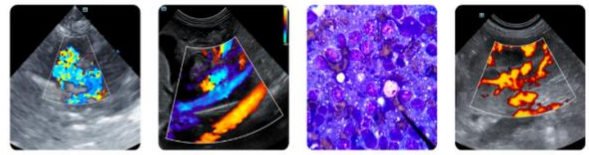
Some heterogenous parenchymal changes were noted around the **pancreas**, this is likely secondary to enhanced omentum from the ascites.

ULTRASONOGRAPHIC FINDINGS

- C1 valvular disease with right-sided failure and pulmonary hypertension
- Passive congestion liver pattern with undefined nodular changes
- Ascites, owing to passive congestion
- Bladder calculi
- Thickened gastric wall
- Heterogenous pancreas
- Age-related renal and splenic changes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Recommend focusing on the heart in this patient with treating for left and right-sided heart failure. Given the cough and volume overload, the cough is likely cardiogenic as well as secondary right-sided heart failure. Pimobendan is indicated at a dose of 0.3 mg/kg BID, Lasix at a dose of 2-3 mg/kg BID, spironolactone at a dose of 1-2 mg/kg SID, and ACE inhibitor at a dose of 0.5 mg/kg SID, progressing



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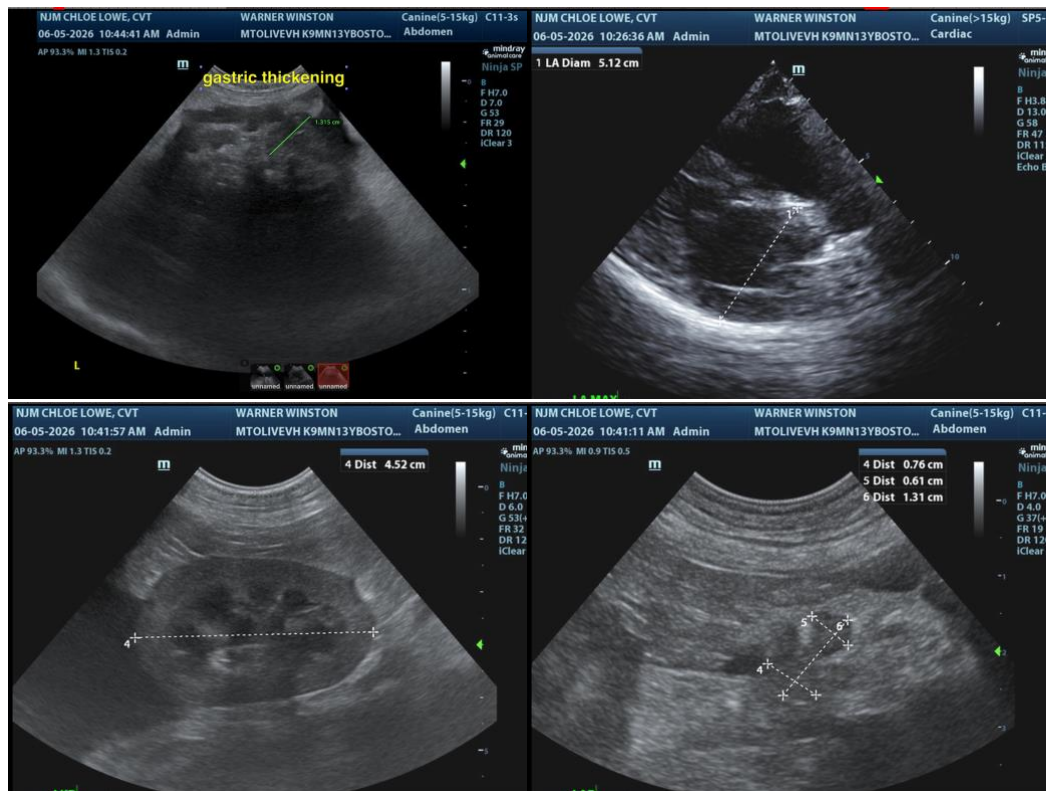
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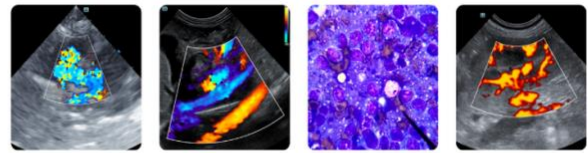
to BID. Prognosis is guarded to poor long-term, however, depending upon response to medications. Eventual sildenafil may be indicated depending upon response to therapies

The heart is in a somewhat precarious state with volume overload and a heart that is working to compensate for the valvular insufficiency. Target respiratory rate is < 20 resp/minute after therapy. After initiating therapy, I recommend recheck on the clinical exam, BUN, Creatinine, USG, Chest radiographs & Blood pressure in 5-7 days. Recheck echo in 1 month. Earlier if clinical decompensation is occurring. I do not recommend anesthesia at this time until stabilization has occurred on the recommended medications. Repeat preanesthetic echo is ideal if anesthesia is eventually necessary.

Regarding the bladder calculi, eventual cystotomy could be considered. However, anesthesia is contraindicated at this time owing to left and right-sided failure.

Eventual hepatic nodular FNA would be indicated, however, subjectively appears to be a low-grade lesion or possibly benign.





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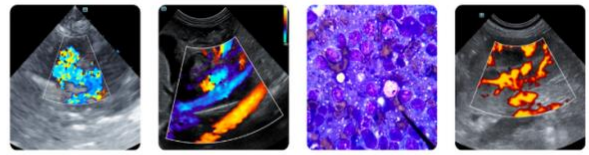
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The ultrasound images are arranged in a 2x5 grid. The top two rows show cardiac views (Aortic Regurgitation and Left Atrial Enlargement) with various parameters. The bottom two rows show abdominal views (Uterine Calculi) with measurements.

Image	View	Key Parameters
1 (Top Left)	Cardiac (Aortic Regurgitation)	4 MR Vmax: 557.7, MR PGmax: 124.45
2 (Top Right)	Cardiac (Left Atrial Enlargement)	4 Ao Diam: 1, LA Diam: 3, LA/Ao: 2.64
3 (Bottom Left)	Abdomen (Uterine Calculi)	ub calculi (0.91 cm, 0.74 cm)
4 (Bottom Right)	Abdomen (Uterine Calculi)	ub calculi (0.82 cm)



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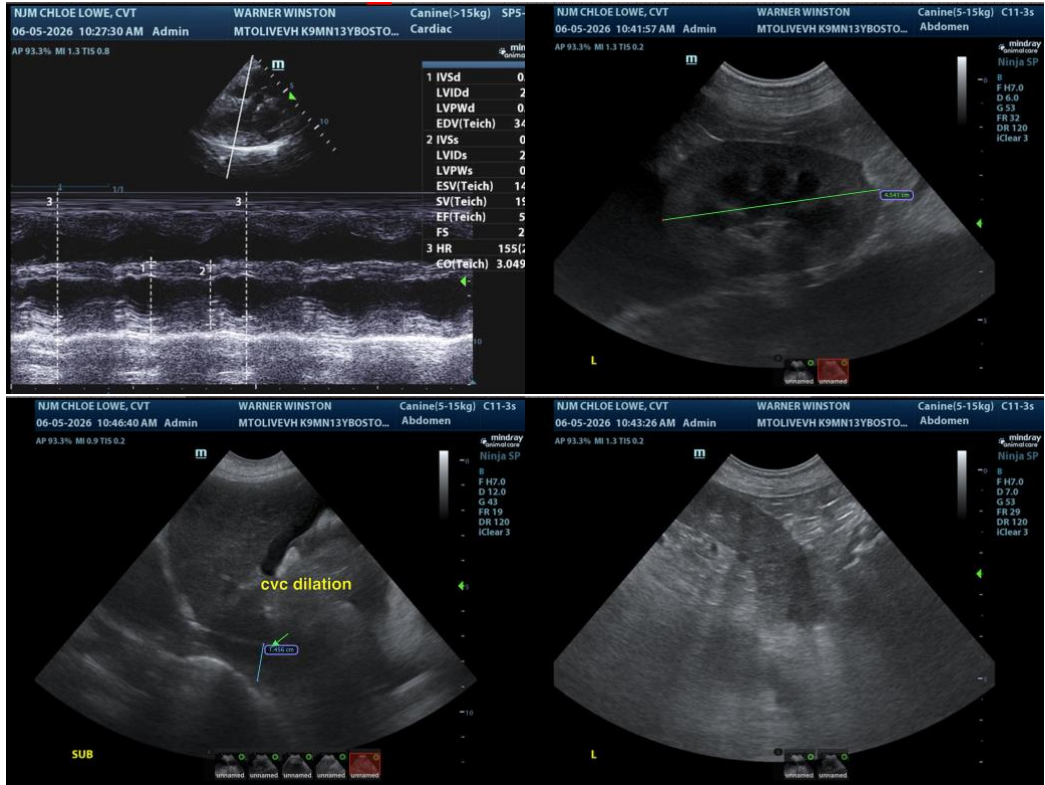
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP(CFM), Cert. IVUSS,
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info@SonoPath.com