



**PATIENT PRESENTING CLINICAL SIGNS**

Bella Halko

1. Hx of murmur and valvular disease; ECG suggestive of ventricular enlargement. 2. Elevated ALKP and lipase. 3. Crystalluria 4. proteinuria. On GI low fat diet, metronidazole (for giardia)  
 Abnormal PE/Chem/CBC/UA Results: CBC wnl, chem: ALKP 331, lipase 1010, ccreatinine kinase 923; UA: pH 8.0, protein 3+, struvite 1+, USPG 1.044

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

**BREED**

Yorkshire Terrier Mix

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 measuring 5.0 m/sec. 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. Occasional arrhythmia was noted.

**SEX**

Spayed Female

**AGE**

13 years

**WEIGHT**

9.5 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Diane McFadden, RVT

**HOSPITAL NAME**

Long Valley AH

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96169

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2/21/22

CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
<b>CARDIAC PARAMETERS</b>	<b>VMAX</b> (m/s)	<b>VMAX</b> (m/s)	(Boon method)	(Heart Base; Swe)	(%)	(%)	(cm)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
<b>PATIENT</b>			1.05	1.03	43	77	0.37
CANINE	HR	AV	PV	BODY WEIGHT	LA	LVIDd	LVIDs
<b>CARDIAC PARAMETERS</b>	(BPM)	<b>VMAX</b> (m/s)	<b>MAX</b> (m/s)		2D short axis Base view (cm)	Avg; 2D and m-mode short axis (cm)	Avg; 2D and m-mode short axis (cm)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6				
<b>PATIENT</b>		1.23	0.8	9.5 lbs	2.31 max	2.47	



**PATIENT**

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Bella Halko

**Urinary System**

**SPECIES**

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.

Canine

**BREED**

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some 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. Slight mineralization was noted in both kidneys. The right kidney measured 3.86 cm. The left kidney measured 4.12 cm.

Yorkshire Terrier Mix

**SEX**

Spayed Female

**Adrenal Glands**

**AGE**

The left **adrenal gland** was at the upper limits of normal and measured 1.93 x 0.73 cm at the caudal pole and 0.55 cm at the cranial pole. The right adrenal gland was at the upper limits of normal and measured 2.06 x 0.42 cm at the caudal pole and 1.18 cm at the cranial pole.

13 years

**WEIGHT**

**Spleen**

9.5 lbs

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 was noted.

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**Liver**

Diane McFadden, RVT

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Occasional, non-disruptive nodular change was noted in the liver. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal. No overt evidence of active inflammatory, infiltrative or regenerative pathology was noted but should be paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.

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**Gastrointestinal**

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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.



**PATIENT**

**Pancreas**

Bella Halko

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some 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 subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

**SPECIES**

Canine

**BREED**

Yorkshire Terrier Mix

**ULTRASONOGRAPHIC FINDINGS**

Geriatric abdomen.

**SEX**

Spayed Female

Moderate degenerative renal changes. Renal mineralization.

Mild bilateral adrenal enlargement.

Mitral insufficiency was eccentric and minor.

**AGE**

13 years

Stage B1 valvular disease. No evidence of volume overload present.

Arrhythmogenic pattern noted.

**WEIGHT**

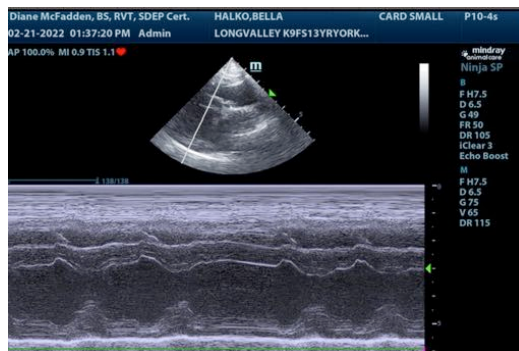
9.5 lbs

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

If the patient appears Cushingoid then work-up for PDH is indicated. The kidneys appear approximately 50% compromised from a subjective standpoint. Assessment of EKG is recommended for clinical arrhythmia that may need treatment if not reflected in short EKG then Holter may be appropriate.

**INTERPRETED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS



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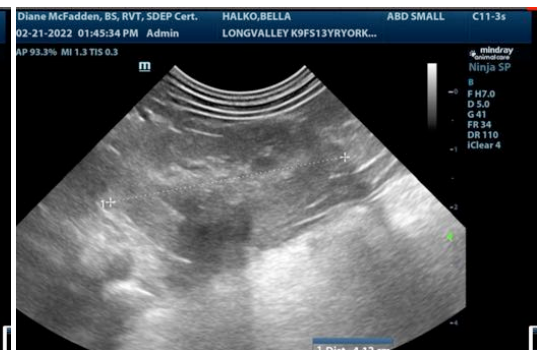
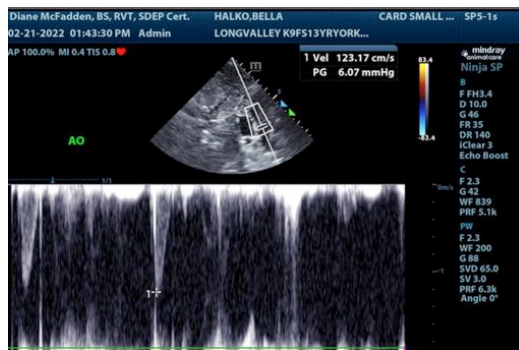
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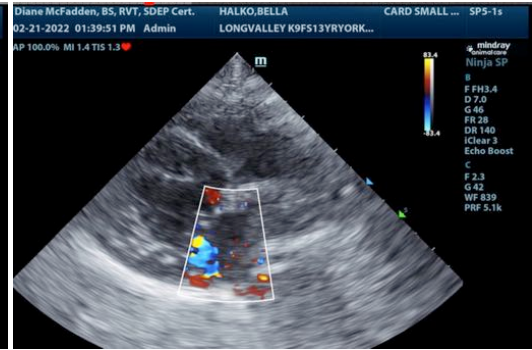
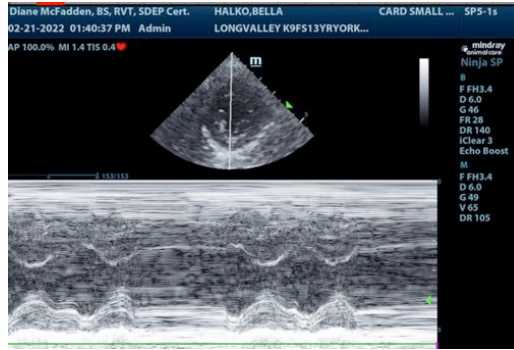
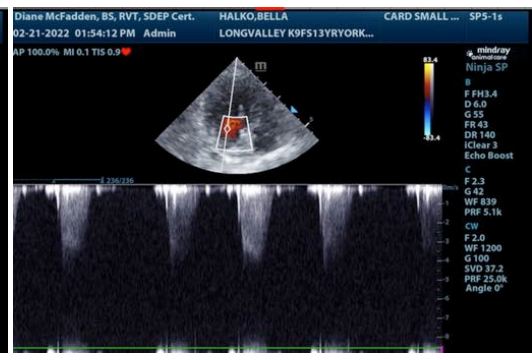
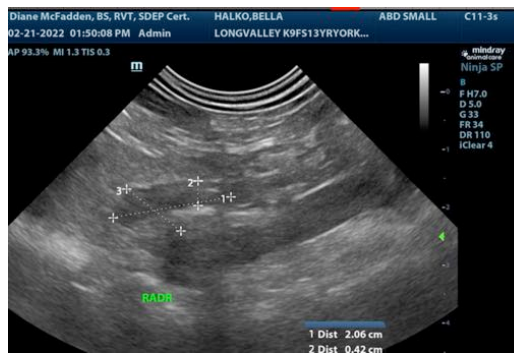
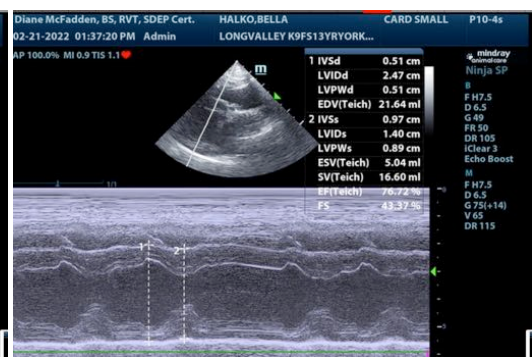
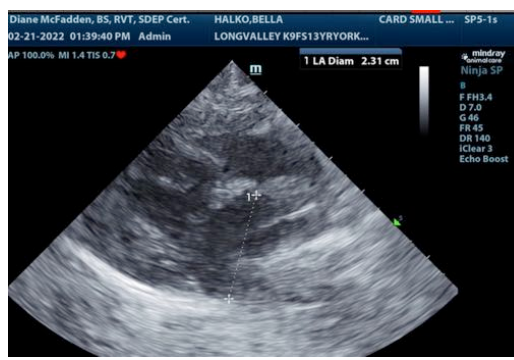
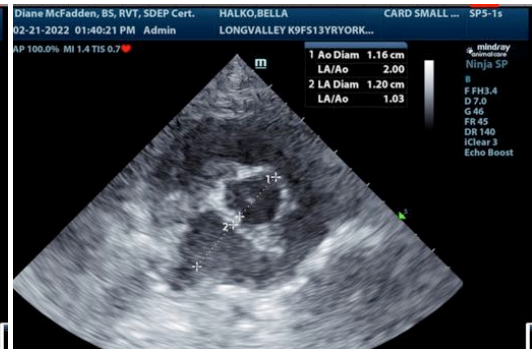
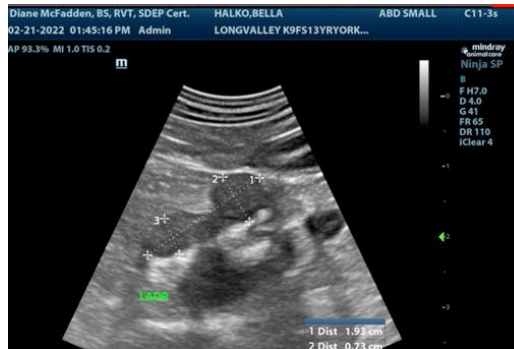
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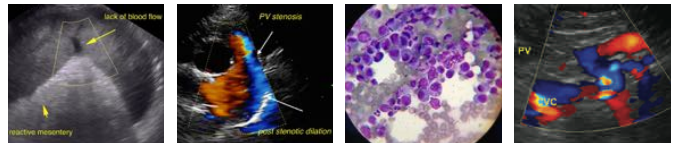
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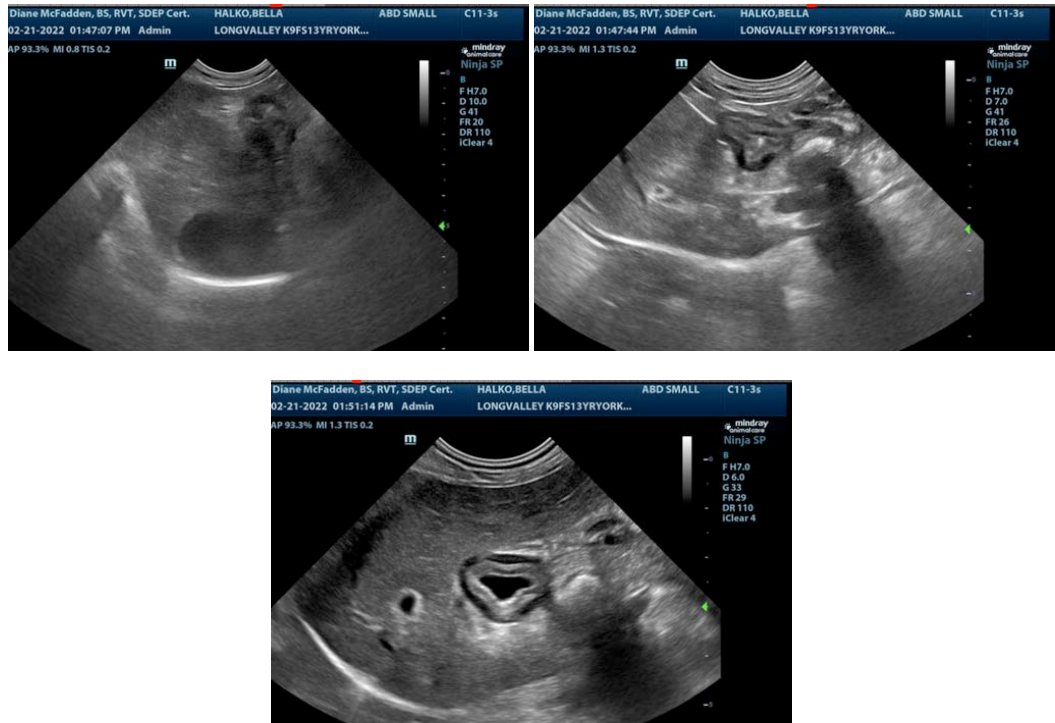
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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