



## PATIENT

Bailey Kuykendall

## SPECIES

Feline

## BREED

Domestic Shorthair

## SEX

Neutered Male

## AGE

8 Years

## WEIGHT

5.4 kg

## INTERPRETED BY

Eric Lindquist, DMV,  
DABVP (CFM), Cert.  
IVUSS

## IMAGING PERFORMED BY

Jolee Stegemoller,  
DVM

## HOSPITAL NAME

North Idaho Animal  
Hospital

## REFERRING VET

Jolee Stegemoller,  
DVM

## INVOICE

75314

## DATE

5/20/26

## PRESENTING CLINICAL SIGNS

Recent azotemia and new heart murmur. Cardiac proBNP significantly elevated. Patient was lethargic and not eating well at the time of last study on 5/12. After supportive treatment (fluids, pain management, appetite stimulants) patient is now doing much better and has almost normal appetite and activity.

Abnormal PE/Chem/CBC/UA Results: Patient was previously azotemic with Cre 2.8, now is 1.8 (USG 1.020, but not first am sample). BUN was 49 and now 29. CBC unremarkable. Cardiac proBNP was 1427 on 5/12 (did not repeat testing). Urine culture negative. On PE, patient is bright, alert, and responsive with periodontal disease.

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LWVd (cm)	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	5.4	220	0.51	1.2	0.43	--	--
FELINE CARDIAC PARAMETERS	LA/AO (M-mode)	LA/AO HEART BASE (Sisson)	LAD LA MAX 4 Chamber		LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)
NORMAL PARAMETER	<1.5	1.6	0.7-1.7		<1.6	<1.3	40-60
PATIENT	--	1.3	1.4		--	--	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							

### Cardiac Presentation

The cardiac presentation presented normal volumes. Myocardial remodeling noted and sectorial hypertrophy. The mitral valve was mildly thickened and vegetative. Contractility appeared adequate. No pericardial or pleural effusion noted.

### Urinary System

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 were noted. Ureteral papillae were normal.

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 his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Mineralization noted in both kidneys. Left kidney



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measured 4.2 cm. Right kidney measured 4.5 cm. Blood flow to the kidneys appeared to be mildly subnormal.

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### **Adrenal Glands**

The regions of the **adrenal glands** were unremarkable.

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### **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.

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### **Liver**

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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**

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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.

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### **Pancreas**

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.

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## ULTRASONOGRAPHIC FINDINGS

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- Myocardial remodeling and sectorial hypertrophy, likely mitral insufficiency without volume overload of the heart.
- Non-specific mild degenerative renal disease with pelvic mineralization on the left kidney. The patient may be passing calculi periodically.

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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Systemic hypertension should be ruled out if not already done, as the myocardium may be secondary to effector organ issues. There is no volume overload or evidence of heart failure in this patient. I do recommend IV fluid support, but with caution, no more than 1.5 of maintenance given the cardiac presentation. Contractility and volumes were normal at the time of the sonogram. The heart murmur is likely mitral in origin but not confirmed. Urine culture, blood pressure, IV fluid support to correct azotemia all indicated.



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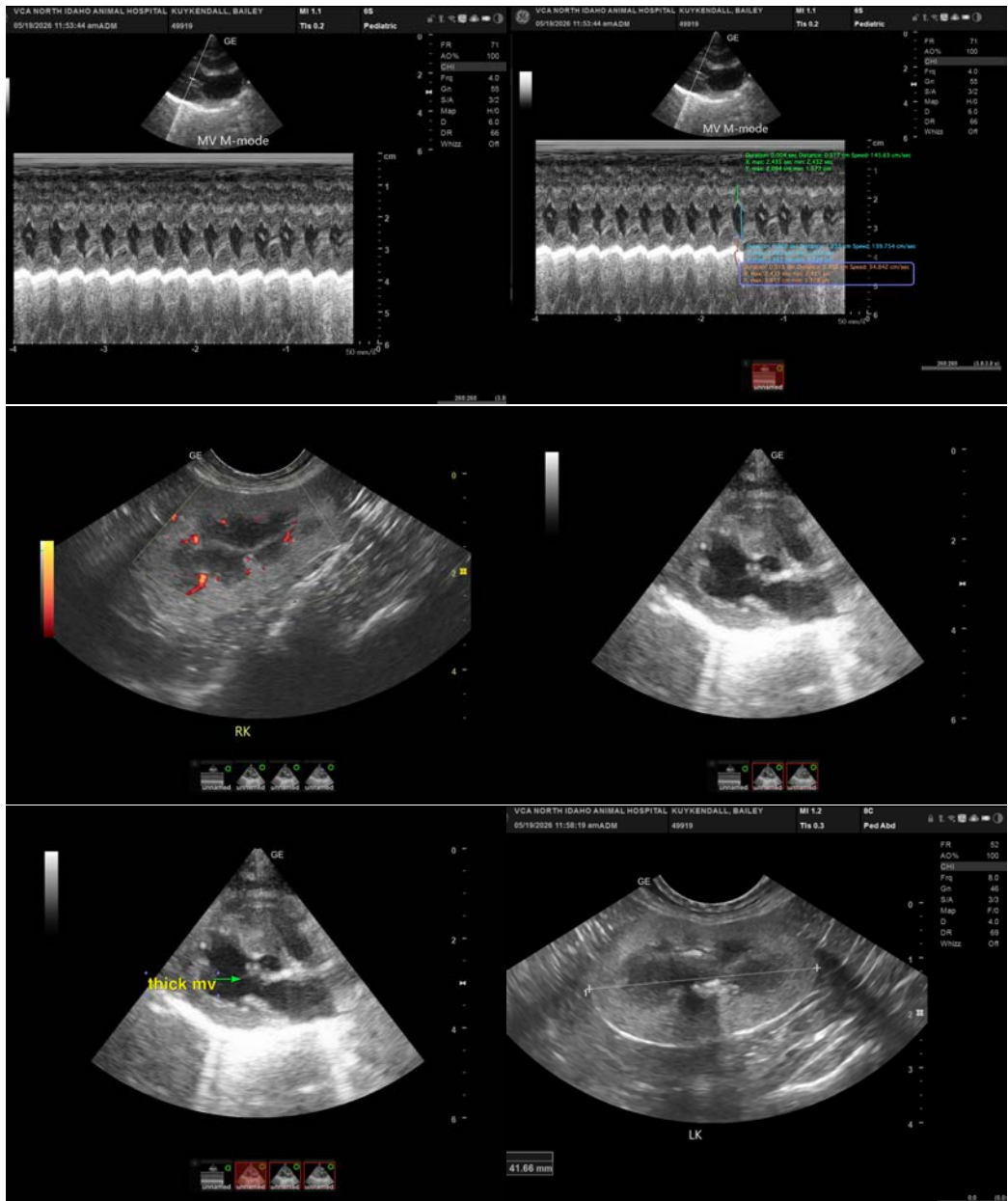
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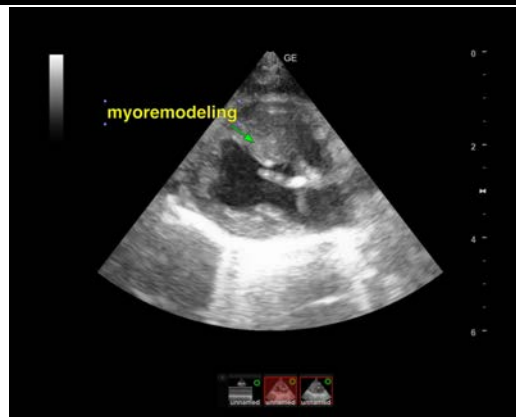
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist**, DMV, DABVP(CFM), Cert. IVUSS,  
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