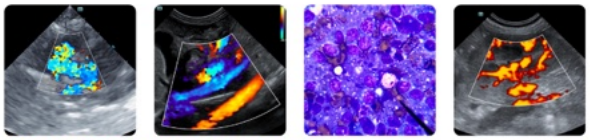

PATIENT

Larry Dicke

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Neutered male

AGE

11 ½ years

WEIGHT

10.43 lbs

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Hollway

HOSPITAL NAME

Seven Valleys VH

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PRESENTING CLINICAL SIGNS

- HX of grade 1-2/6 HM, history of increased proBNP, history of feline asthma/bronchitis. Chronic intermittent low grade HM but on chronic steroids for feline asthma. Cardiomegaly noted on recent CXR with previously increased proBNPs. Heart work-up recommended as a precaution.
- Today: ECG = NSF. BP = 129mmHg
- recheck CXR to IDX = pending
- 12/18/25: CBC: NSF, CHEMISTRY: BG 194 HIGH -- r/o stress, Lytes: K+ 3.6 LOW (3.7-5.2), Cl 113 LOW (114-126), T4 = 3.1 normal. Feline Triple SNAP = (-)x3, proBNP = 97 high end of normal (was previously 120 HIGH), Fecal & Giardia: NEGATIVE
- Urinalysis CYSTO 1.026, 6.5 pH, otherwise quiet sediment, UPC = 0.3 borderline proteinuric
- BAR. Rounded appearance today with subjectively thick SI. No obvious masses palpable. 1-2/6 HM murmur, loudest on RIGHT side today. Hx intermittent HM. Slightly harsh bilaterally but Patient very stressed. NO crackles. Owner reports NO coughing/sneezing. Black crusty nasal discharge noted bilateral nares. 1/2 lb of unintentional weight loss noted today. Lentic sclerosis OU. Pink, moist; ddz3-4, heavy calc on cheek teeth.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The pelvic urethra was imaged 1.0 cm beyond the cystourethral junction and appeared normal. 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.

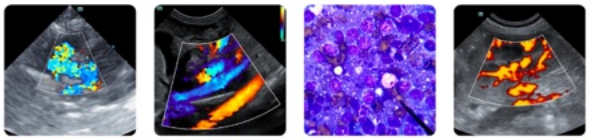
The **kidneys** presented a relatively uniform cortical hyperechogenicity when compared to the renal medulla, spleen and liver. No overt masses were noted. Corticomedullary definition was nebulous and the ratio favored the cortex slightly. The ureters were not visible and assumed to be normal. These changes are most consistent with chronic interstitial nephritis, yet infiltrative disease could not be entirely ruled out without biopsy though neoplasia is not suspected. The left kidney measured 4.0 cm. The right kidney measured 4.16 cm. Blood flow to the kidneys appeared to be mildly subnormal.

Adrenal Glands

Both **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 and 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



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congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

Liver

The **liver** revealed slight, hyperechoic microcystic nodule in the medial liver measuring 1.5 cm. This is consistent with cystadenoma. Otherwise, the parenchyma was uniform. The gallbladder revealed coalesced bile.

Gastrointestinal

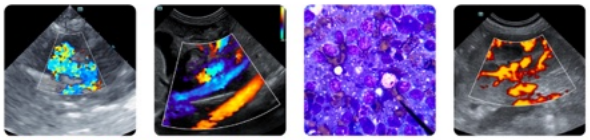
Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt 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 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.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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.



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FELINE CARDIAC PARAMETERS	**BODY WEIGHT**	**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	10.43 lbs	180	0.35	1.3	0.33	45	90
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	1.0	1.1	1.2		NM	0.7	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							

ULTRASONOGRAPHIC FINDINGS

Essentially normal geriatric abdomen.

Interstitial nephrosis pattern.

Normal echocardiogram. Normal volumes and contractility. Idiopathic BNP elevation.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There was no evidence of significant pathology.

There is no contraindication to anesthetic procedure if necessary. No medications are recommended.

Bio markers such as NT-proBNP are screening tests for myocardial stress. A positive test (>100 pmol/liter) does not mean that cardiac disease is necessarily present.

BNP false +can occur in hyperthyroid, renal insufficiency, severe airway disease, systemic hypertension and potentially other systemic influences.

A negative result largely rules out clinically relevant myocardial disease but does not rule out occult cardiomyopathy.

In cases of pleural effusion, diluting the fluid 1:1 and testing BNP on the fluid is useful to assess if the pleural effusion is cardiogenic in nature.

Ultrasound, however, is the gold standard as far as evaluating clinically significant and occult heart disease.

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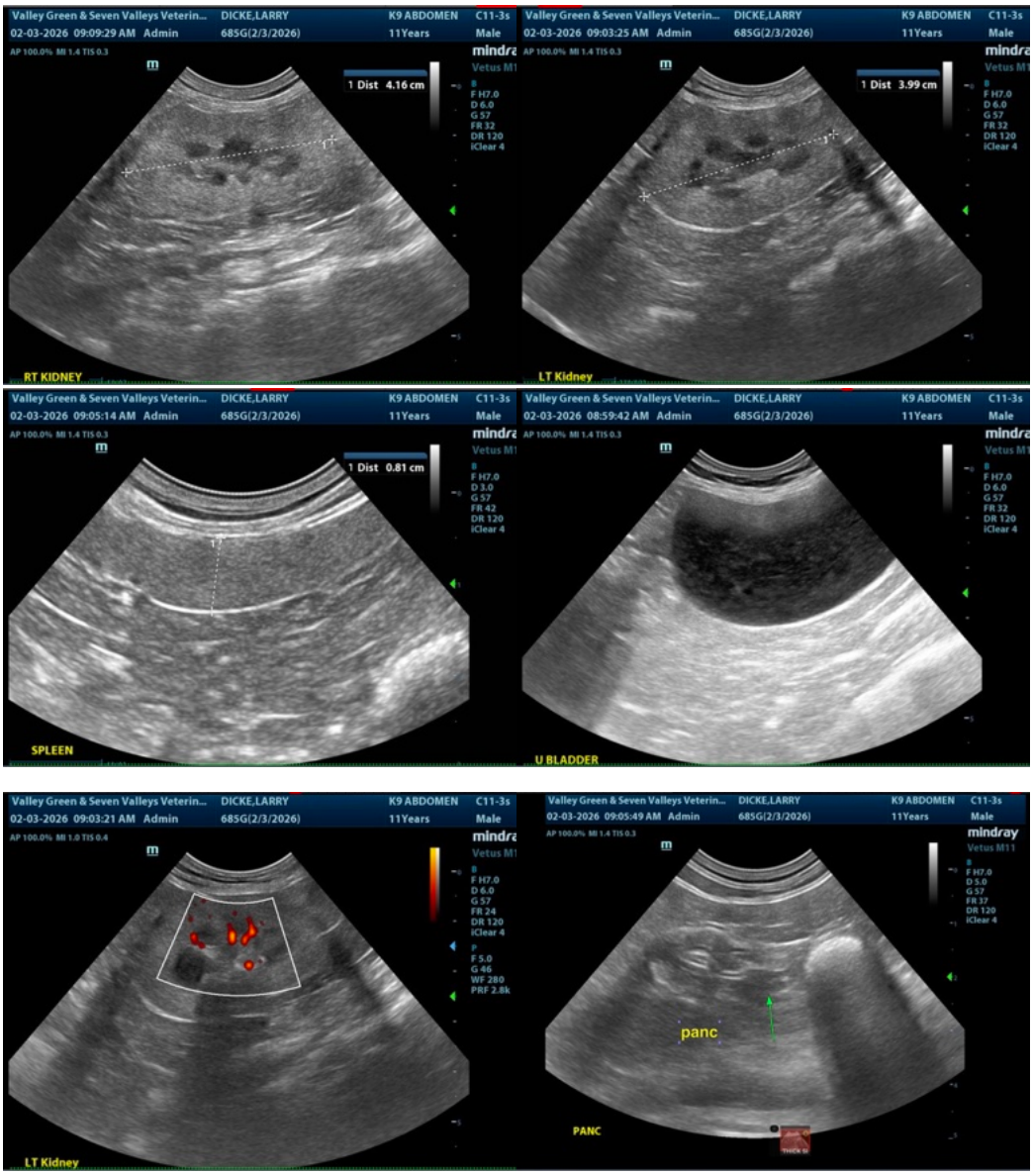

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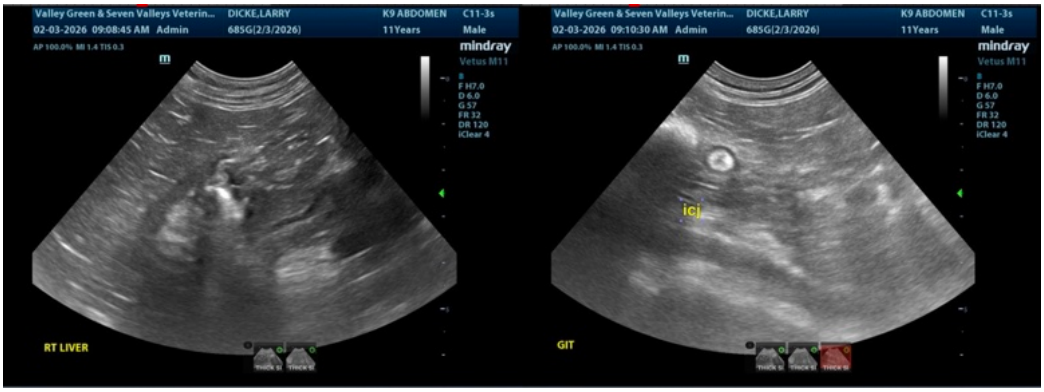

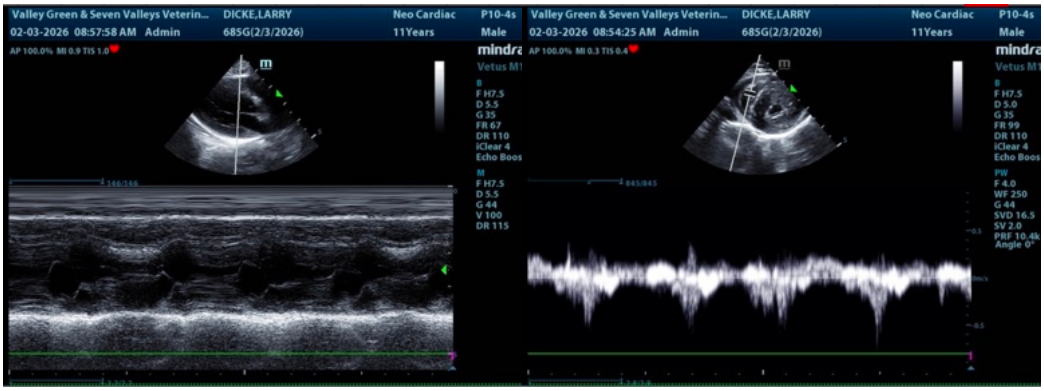

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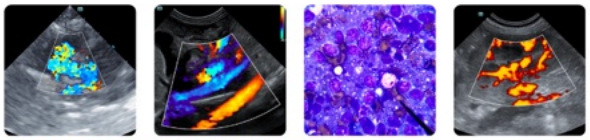

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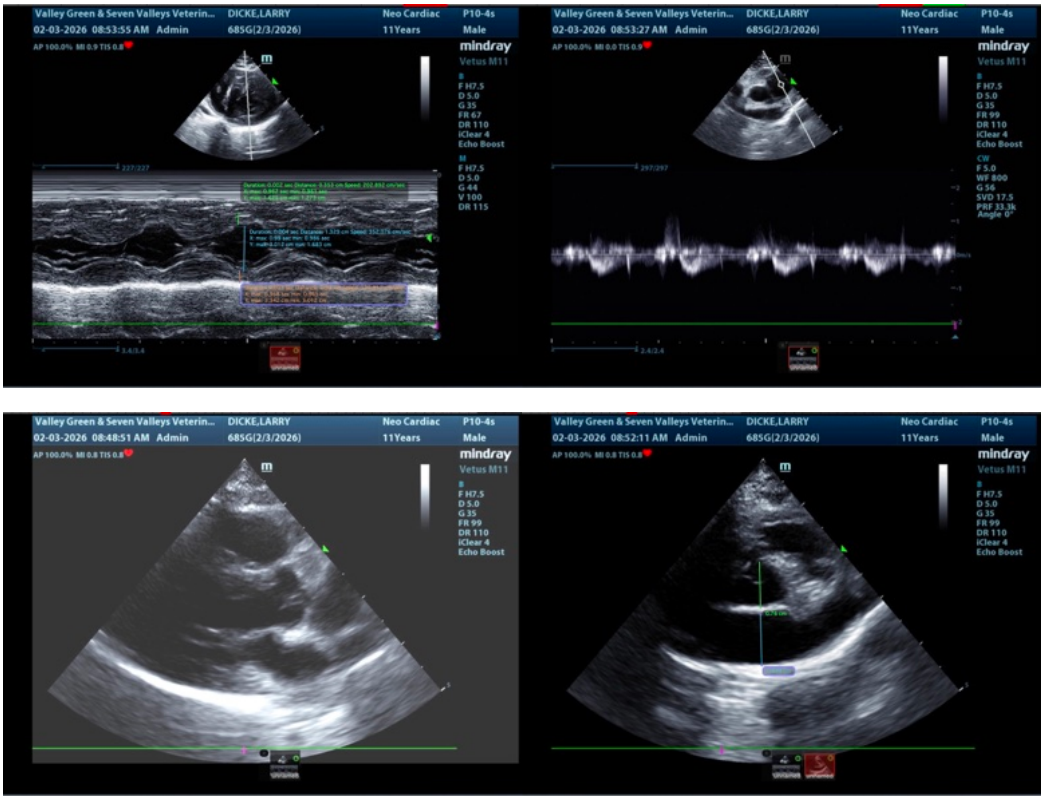

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP (CFM), Cert. IVUSS, CEO of SonoPath.com

info@SonoPath.com