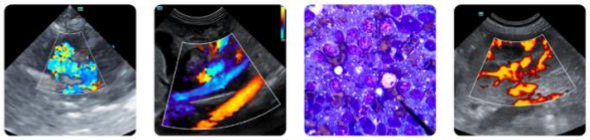


PATIENT

Poe Larkey

SPECIES

Canine

BREED

Shih Tzu

SEX

Neutered Male

AGE

12 Years

WEIGHT

17 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Kerri Becker

HOSPITAL NAME

Marsh HA

REFERRING VET

Dr. Armani

INVOICE

36655

DATE

4/20/26

PRESENTING CLINICAL SIGNS

History: HX of liver enzymes
Meds- ursodiol, tylon and pepcid
Abnormal PE/Chem/CBC/UA Results: ALT-208 alp-563 ggt-80 usg-1.043

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

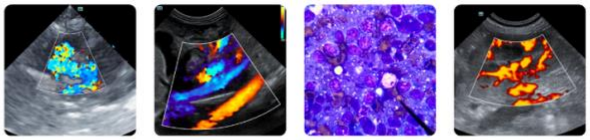
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	--	--	1.18	--	45	80	0.1
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (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	146	1.70	1.00	17.0	--	2.0	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Trivial mitral insufficiency was noted in this patient. No evidence of volume overload. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.

Urinary System

The **urinary bladder** revealed a focal calculus, measuring 0.37 cm, nonobstructive at the time of the sonogram. The bladder wall was unremarkable. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction.



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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. An anechoic cyst is noted in the dorsal cortex of the right kidney, measuring 1.2 cm. The left kidney measured 4.94 cm. Other cysts were noted in the kidneys. Blood flow appeared to be adequate.

Adrenal Glands

Both **adrenal glands** measured the upper limits of normal, essentially similar to the prior sonogram. The right adrenal gland measured 2.2 cm x 1.13 cm at the cranial pole and 0.9 cm at the caudal pole. The left adrenal gland measured 2.37 cm x 0.67 cm at the cranial pole and 0.72 cm at the caudal pole.

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** was uniformly swollen with minor, excessive gallbladder debris and over distension with dependent and suspended bile without evidence of overt mucocele formation. However, excessive sludge was present. The liver presented coarse architecture with mildly increased portal markings and subtle, mixed echogenic changes. This is consistent with vacuolar hepatopathy and some level of remodeling and history of inflammatory component. There was no overt suspicion of neoplasia. This is a mild change. Occasional hypoechoic nodules were noted in the liver.

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. 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.

ULTRASONOGRAPHIC FINDINGS

- Stage B-1 valvular disease
- Age-related renal changes with benign cysts
- Bladder calculus, nonobstructive (new development)
- Benign hepatopathy with occasional hypoechoic nodular changes.
- Both adrenal glands measured the upper limits of normal, essentially similar to the prior sonogram.

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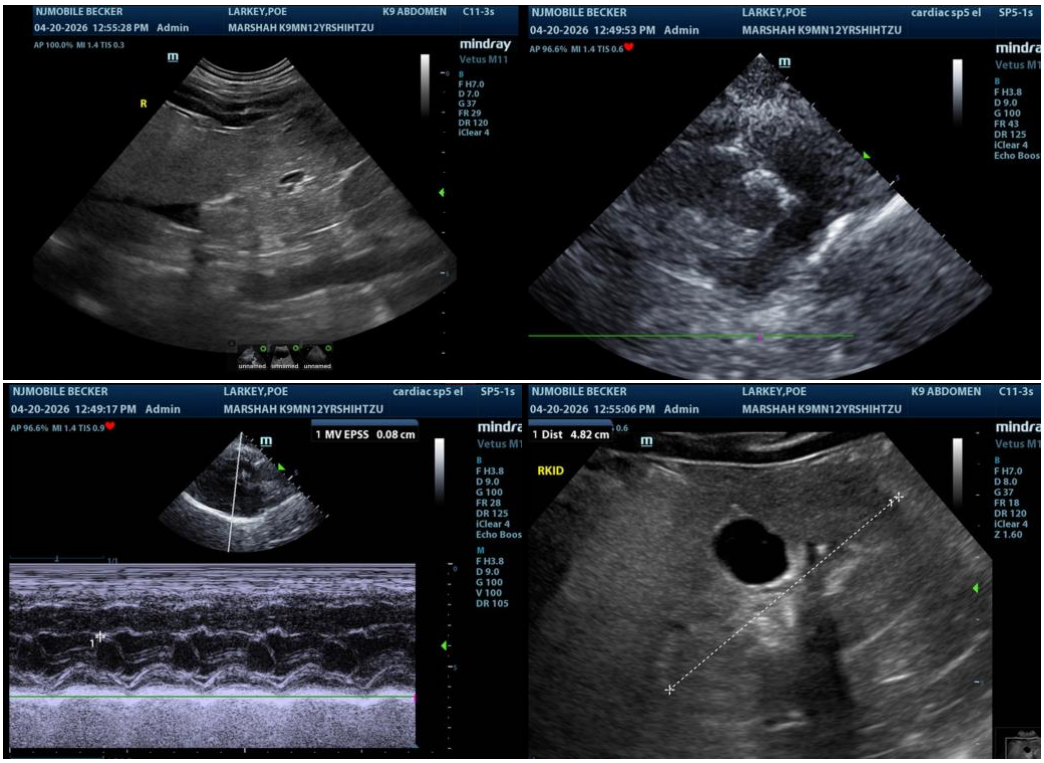
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflo maintenance or similar protocol if anesthesia is desired. Blood pressure recommended if not already performed and target white coat negative systolic pressure of < 160 mmHg. If higher than this ACE-inhibitor is suggested to reach this level. Recheck echocardiogram is recommended in 6 months, earlier if murmur grade increases or clinical signs initiate.

The bladder calculus is a new development. This may be derived from renal passage to the bladder or built up in situ. Cystotomy could be considered or dissolution protocol. If cystotomy is to be performed, given the size of the calculus (there is a minor potential it will pass or dissolve on its own), recommend rapid sonogram just prior to surgery to ensure the calculus is persistently present.

The hepatic presentation is fairly similar to the prior sonogram with minor more pronounced nodular changes, however, FNA would be ideal.



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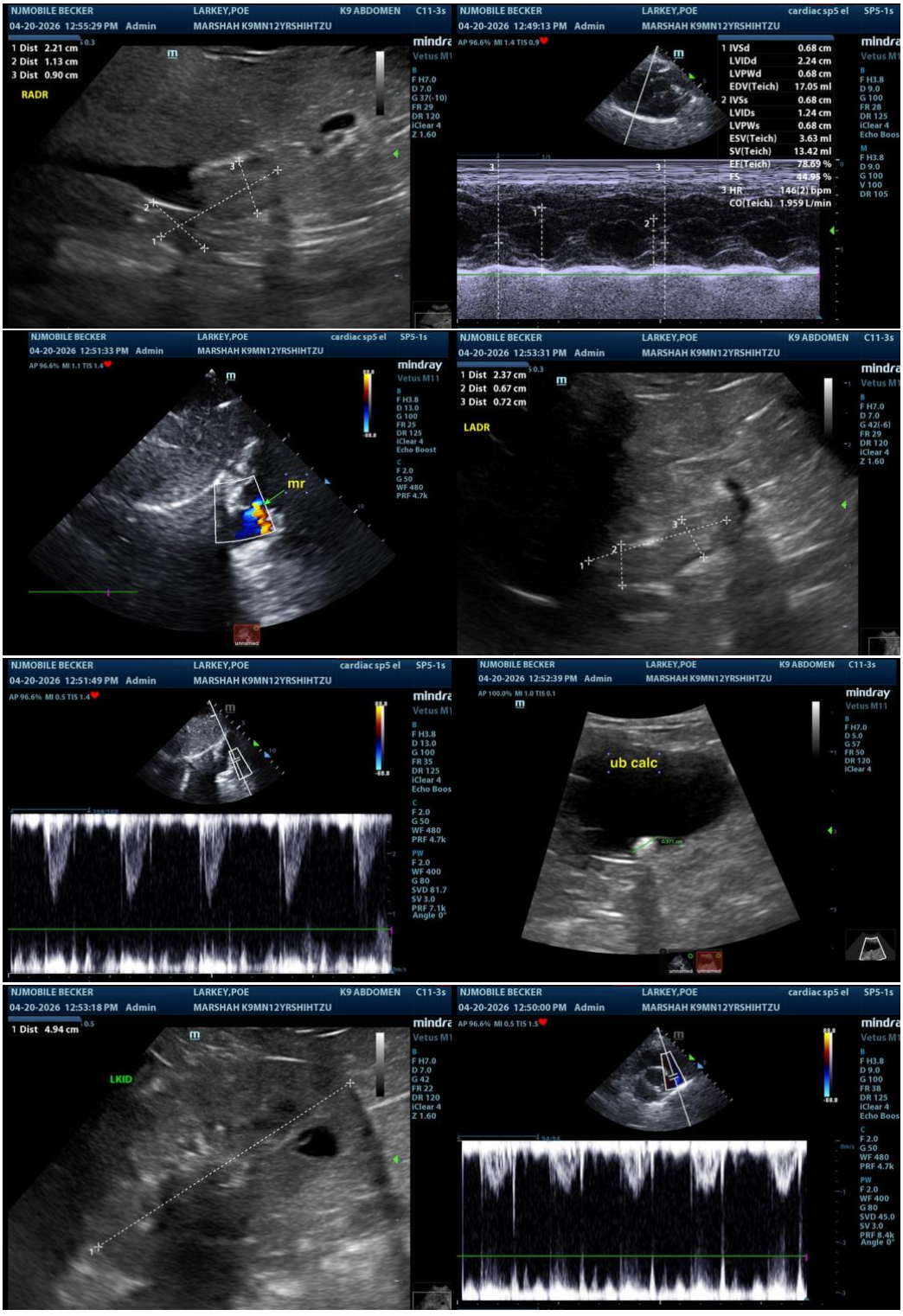

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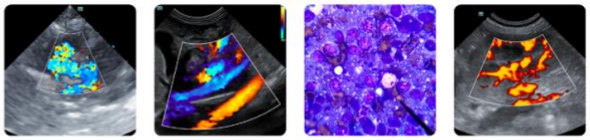

Clinical Sonography & Telecytology
Educational Teleconsultation Services™

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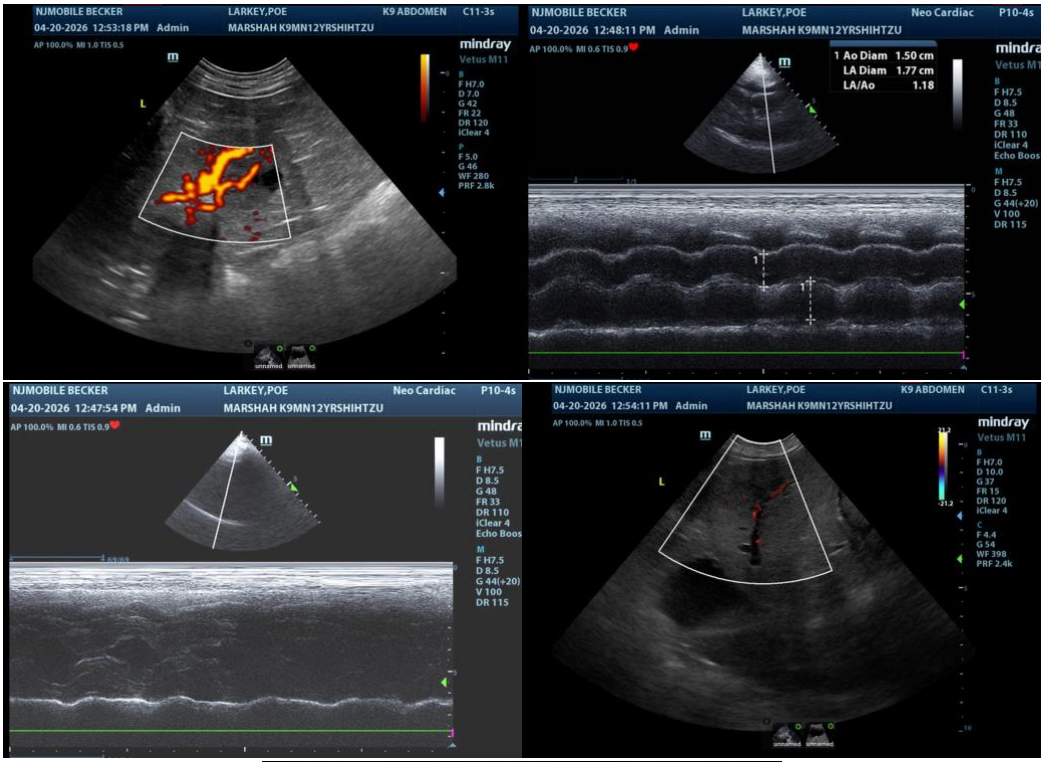

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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, Owner, Founder -- SonoPath.com
info@SonoPath.com