



**PATIENT PRESENTING CLINICAL SIGNS**

**PATIENT:** Leo Lienesch  
**SPECIES:** Canine  
**BREED:** Jack Russell  
**SEX:** Neutered male  
**AGE:** 8 years  
**WEIGHT:** 14.3 lbs

Polyuria, polydipsia. No evidence of UTI, diabetes, or renal disease. R/O Cushing's. Mild alp and platelet elevation. History of heart murmur: MVR and TVR, last echo March 2021-stable no LA enlargement. LA: AO: 1.49, RA: AO: 1, FS: 62%, ALP-272 Platelets: 494 BUN, creatinine, and SDMA: WNL USG: 1.010 Low dose dexamethasone suppression test pending.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

The echocardiogram in this patient demonstrated enlarged **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The left atrial size is best evaluated in LA max measurement in this patient. The cranial and caudal **mitral valve** leaflets presented vegetative thickening consistent with endocardiosis. Prolapse of the anterior mitral valve leaflet was noted. Doppler indicated measurable insufficiency. 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** insufficiency was present. 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.

**INTERPRETED BY**

Eric Lindquist, DMV  
 DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Petrone

**HOSPITAL NAME**

Long Branch AH

**REFERRING VET**

Dr. Petrone

**INVOICE**

94898

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12/23/21

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT			1.3	2.0	45		0.1
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA (2D short axis Base view) (cm)	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				14.3	4.2 max	3.5	



**PATIENT**

Leo Lienesch

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**SPECIES**

Canine

**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 was noted. Ureteral papillae were normal.

**BREED**

Jack Russell

The residual prostate measured 1.2 cm.

**SEX**

Neutered male

The **kidneys** revealed largely normal size and structure with some loss of corticomedullary definition. 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. Minor mineralization was noted. The right kidney measured 5.78 cm. The left kidney measured 4.92 cm.

**AGE**

8 years

**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 right adrenal gland measured 1.13 cm at the cranial pole and 0.47 cm at the caudal pole. The left adrenal gland measured 0.72 cm at the caudal pole and 0.53 cm at the cranial pole.

**WEIGHT**

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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 was noted.

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**Liver**

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



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demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

**SPECIES**

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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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Jack Russell

**ULTRASONOGRAPHIC FINDINGS**

**SEX**

Neutered male

Normal abdomen with moderate age related renal changes. Mitral and tricuspid insufficiency. Stage B2 valvular disease.

**AGE**

8 years

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**WEIGHT**

14.3 lbs

Pimobendan is recommended at 0.3 mg/kg b.i.d. If any increased respiratory rate or basal respiratory rate > 20/minute or exercise intolerance are present then Spironolactone and ace inhibitor can be considered. If systolic blood pressure is > 160 then ace inhibitor is recommended. There is a potential for early pituitary dependent hyperadrenocorticism. However, structurally the adrenal glands appear normal for this size and breed. A small percentage of these patients can have normal adrenal glands.

**INTERPRETED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS

For an additional charge an internal medicine consult can be utilized through [Sonopath.com](http://sonopath.com). You can select the internal medicine drop down at <http://spa.sonopath.com/>.

One of the world's top internists & SonoPath associate Dr. Remo Lobetti BVSc, MMedVet, PhD, DECVIM can evaluate your case through SonoPath. <https://sonopath.com/resources/sonopath-services/internal-medicine-teleconsultation-services>

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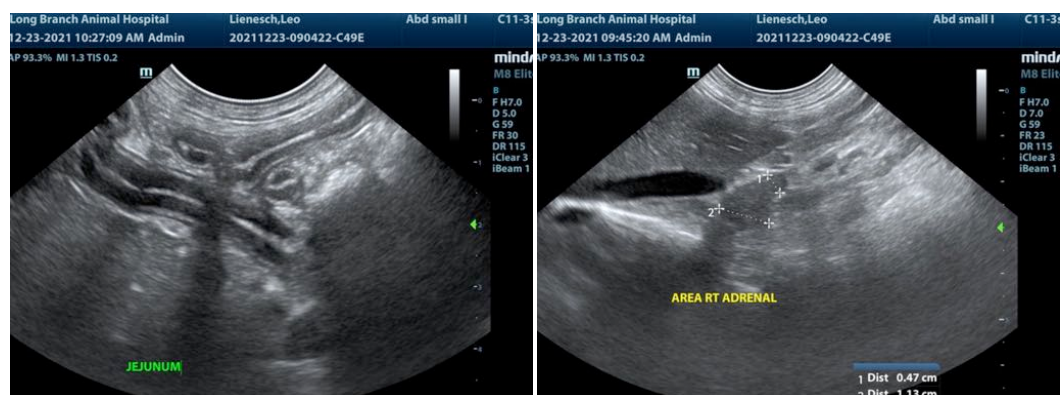
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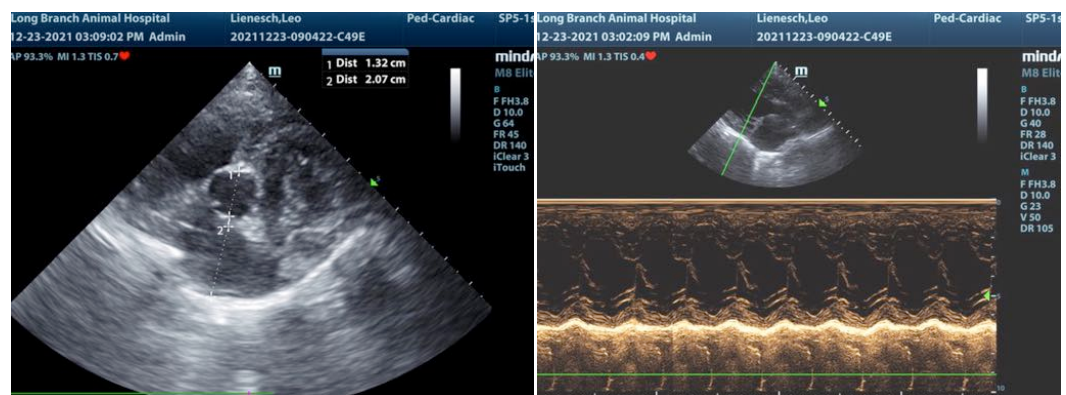
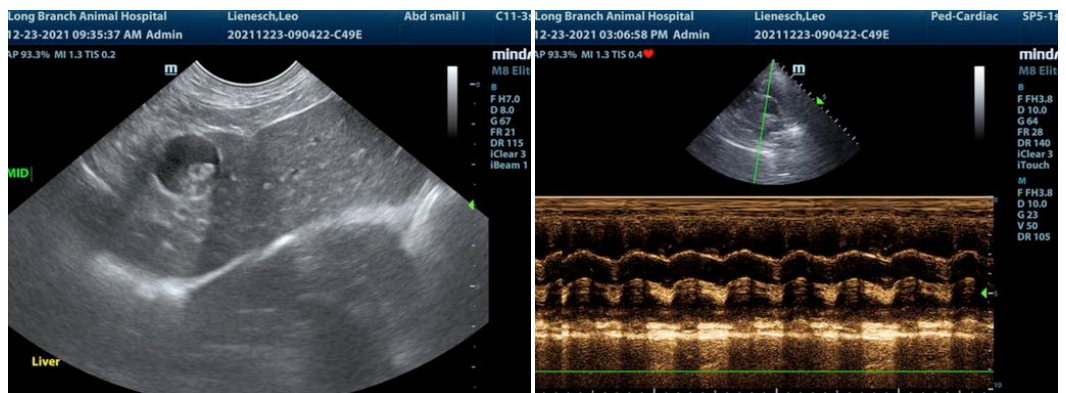
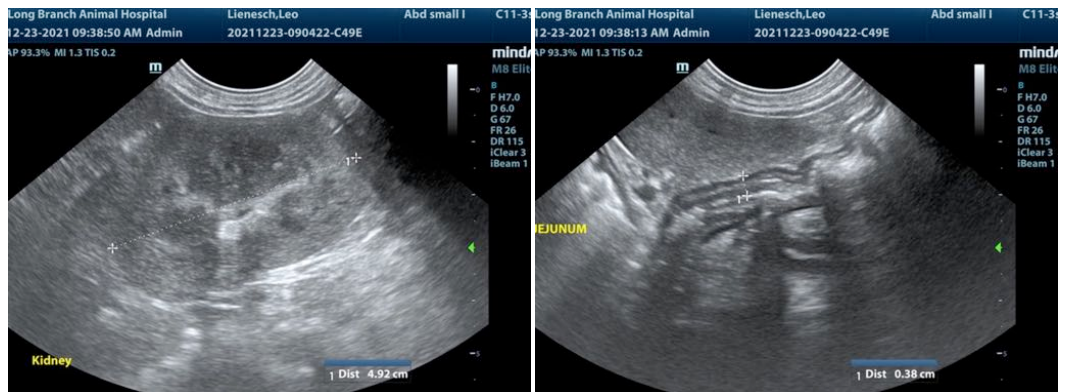
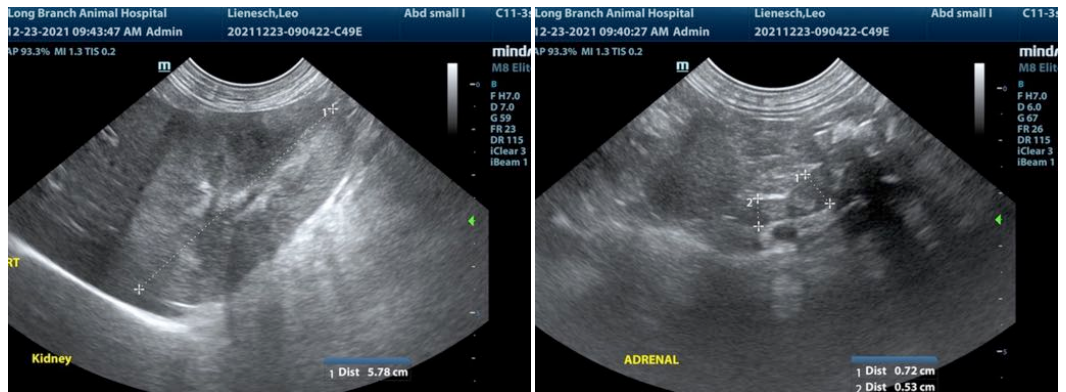
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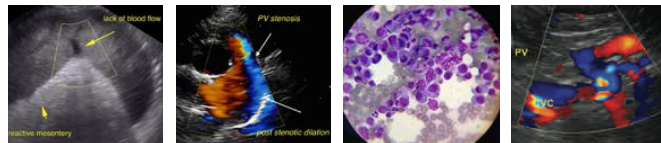
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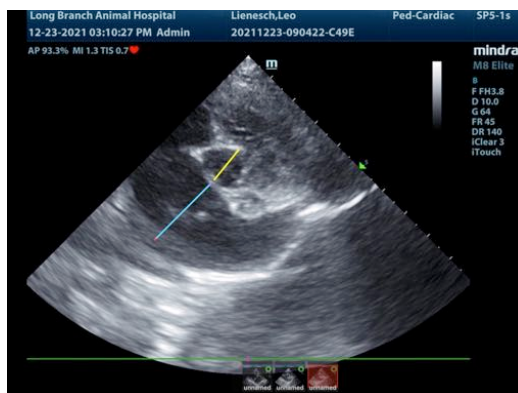
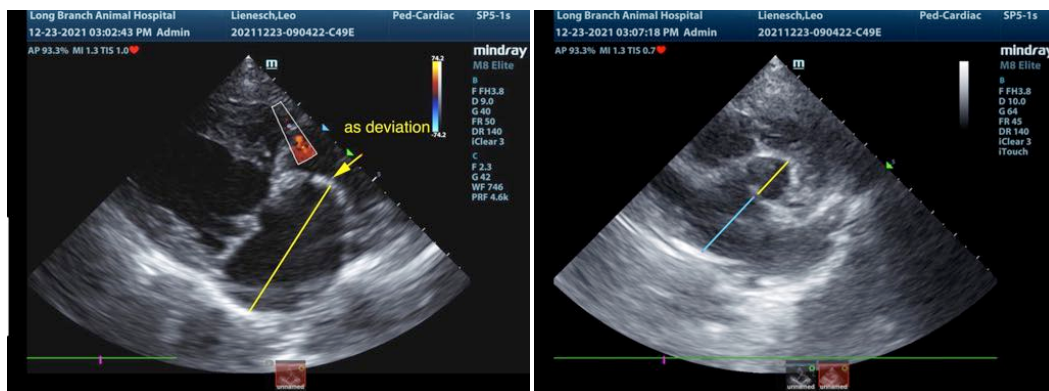
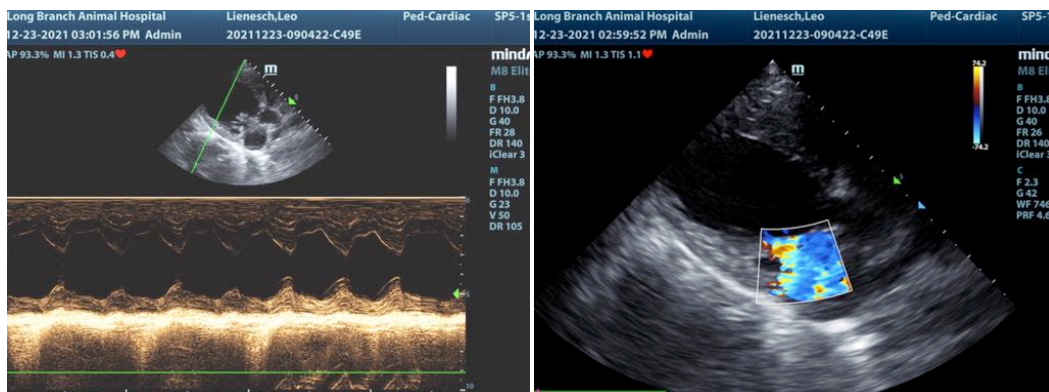
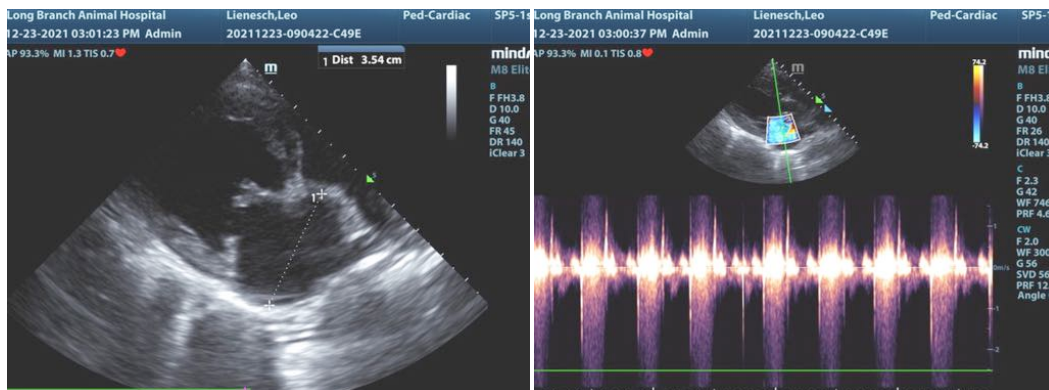
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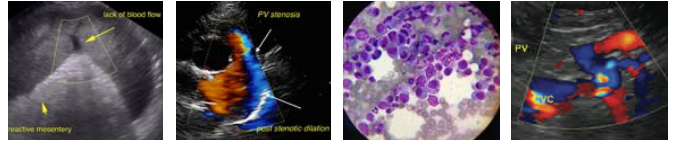
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

**SPECIES**

Canine

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.

**BREED**

Jack Russell

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
info@SonoPath.com

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