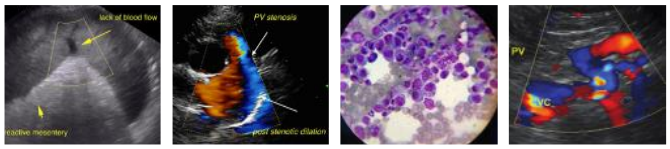
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

**PATIENT**

Ringo Santimauro

**SPECIES**

Canine

**BREED**

Lab

**SEX**

Neutered Male

**AGE**

10 Years

**WEIGHT**

95 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS

**HOSPITAL NAME**

Franklin Lakes AH

**REFERRING VET**

Dr. Ward

**INVOICE**

13864

**DATE**

10/19/21

## PRESENTING CLINICAL SIGNS

History: Hx Liver Dx- marked chronic active. Ongoing portal fibrosis, hepatic necrosis

Current meds: Denamarin

CBC/Chem findings: ALB 2.4, ALT 564, ALP 260, RBC 4.83 L, HCT 32.5%

Urine Spec Gravity: 1.015

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

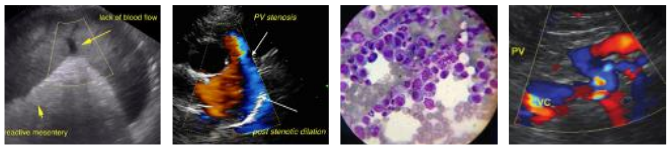
| CANINE CARDIAC PARAMETERS | MR VMAX (m/s) | TR VMAX (m/s) | LA/AO (Boon method) | LA/AO (Heart Base; Swe) | FS (%) | EF (%) | EPSS (cm) |
|---|---|---|---|---|---|---|---|
| NORMAL PARAMETER | 4.5-5.5 | <2.7 | 1.3 | <1.6 | 28-40 | 40-100 | <0.6 |
| PATIENT | 5.02 | 2.3 | 1.1 | 1.0 | 30 | 57 | 0.2 |
| **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 | BELOW | BELOW | BELOW | BELOW |
| PATIENT | -- | 1.10 | .68 | -- | 3.68 | 3.9 | -- |

### *Cardiac Presentation*

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Mild to moderate eccentric mitral insufficiency jet noted. 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** insufficiency noted, minor. 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 **bladder** in this patient was mildly thickened with slight echogenic mural changes. No calculi or masses were noted. Slight micropolypoid changes were noted. This is a frequent finding in older



SonoPath.com
1-800-838-4268 info@sonopath.com

**PATIENT**

Ringo Santimauro

**SPECIES**

Canine

**BREED**

Lab

**SEX**

Neutered Male

**AGE**

10 Years

**WEIGHT**

95 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS

**HOSPITAL NAME**

Franklin Lakes AH

**REFERRING VET**

Dr. Ward

**INVOICE**

13864

**DATE**

10/19/21

animals and may be linked to a history of chronic urinary tract infection or active urinary tract infection. Urinalysis would be recommended with culture if any evidence of inflammatory sediment is present. The region of the trigone and visible pelvic urethra were normal.

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The left kidney measured 6.65 cm. The right kidney measured 7.37 cm.

### *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 adrenal gland measured 2.27 cm x 0.55 cm. The right adrenal gland measured 1.92 cm x 1.96 cm at the cranial pole and 1.18 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 mildly subnormal in size with areas of compensatory expansion and degenerative retraction. The liver revealed coarse architecture, increased portal markings and irregular contour- moderate fibrotic pattern. The gallbladder and common bile duct were unremarkable.

### *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*

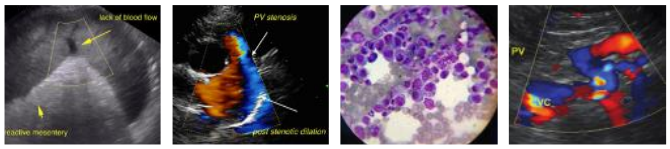
The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

## ULTRASONOGRAPHIC FINDINGS

- Stable mitral insufficiency on the current protocol
- Moderate hepatic fibrosis pattern, possible emerging cirrhosis
- Minor bladder thickening

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

**PATIENT**

Ringo Santimauro

**SPECIES**

Canine

**BREED**

Lab

**SEX**

Neutered Male

**AGE**

10 Years

**WEIGHT**

95 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Eric Lindquist, DMV
DABVP, Cert. IVUSS

**HOSPITAL NAME**

Franklin Lakes AH

**REFERRING VET**

Dr. Ward

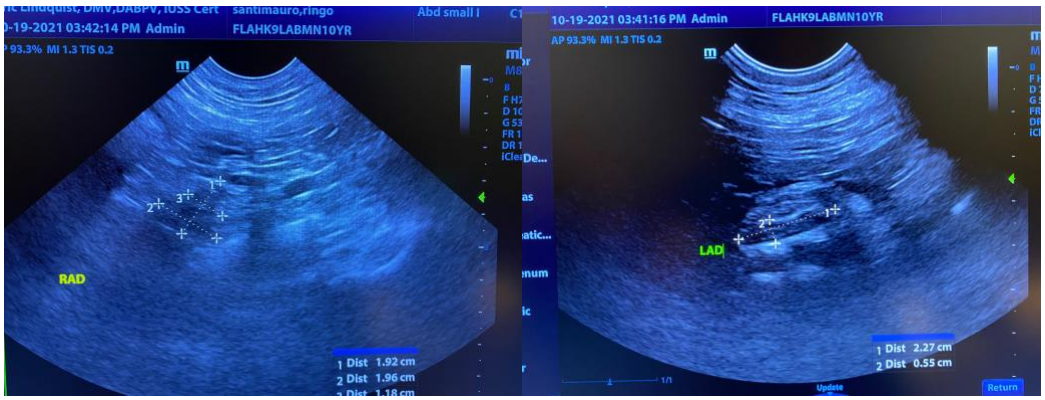
**INVOICE**

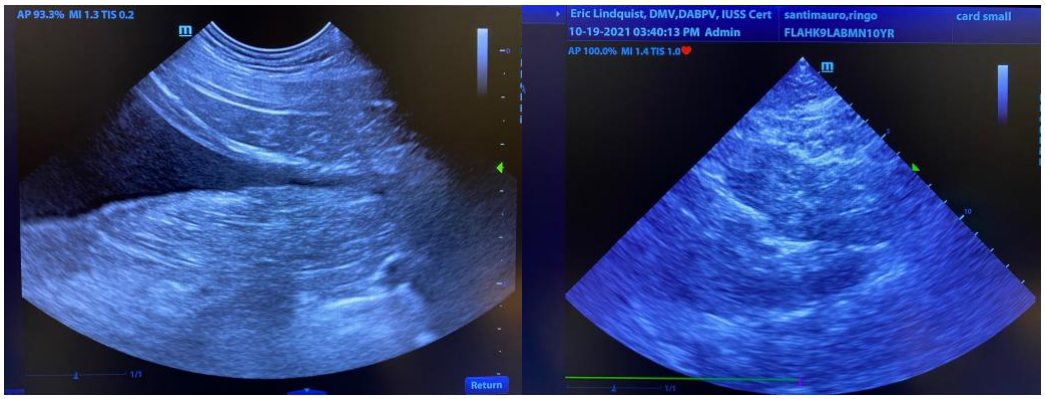
13864

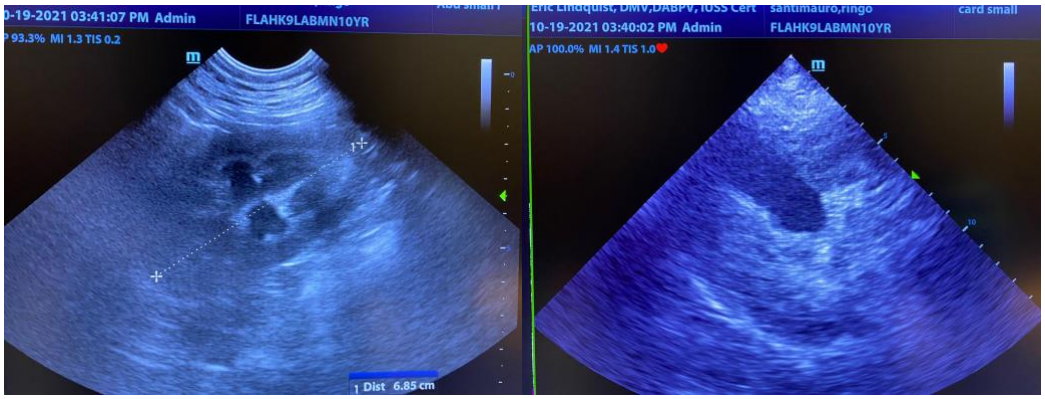
**DATE**

10/19/21

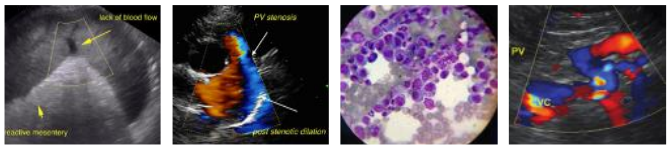
No evidence of portal hypertension at this time, however, bile acid profile and monitoring of hepatic function recommended. I recommend continuation of the current protocol. DCM criteria is not present at this time. I recommend hepatic support diet in this patient with nutraceutical such as actigall and denamarin. If bile acids are elevated, then 10 days of metronidazole +/- lactulose would be indicated.



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

**PATIENT**

Ringo Santimauro

**SPECIES**

Canine

**BREED**

Lab

**SEX**

Neutered Male

**AGE**

10 Years

**WEIGHT**

95 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Eric Lindquist, DMV
DABVP, Cert. IVUSS

**HOSPITAL NAME**

Franklin Lakes AH

**REFERRING VET**

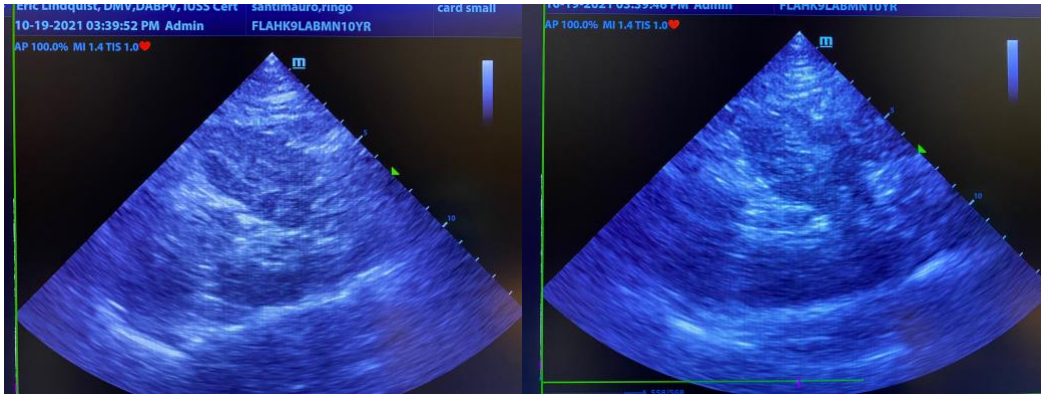
Dr. Ward

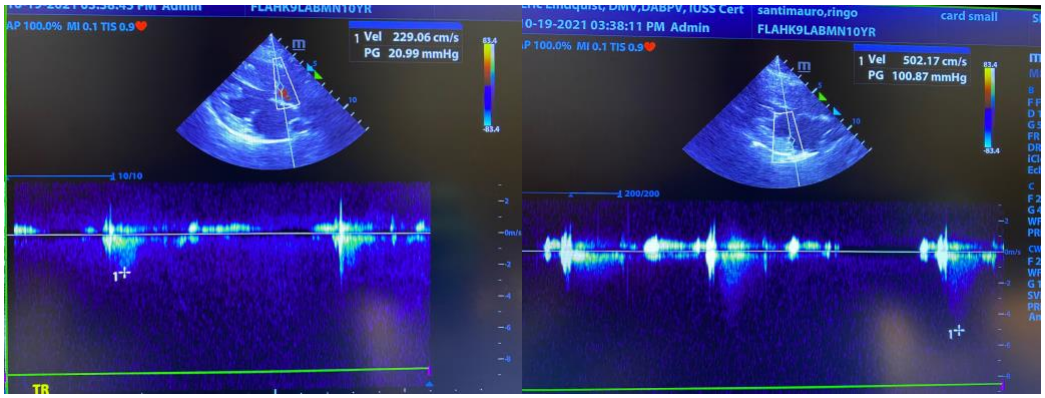
**INVOICE**

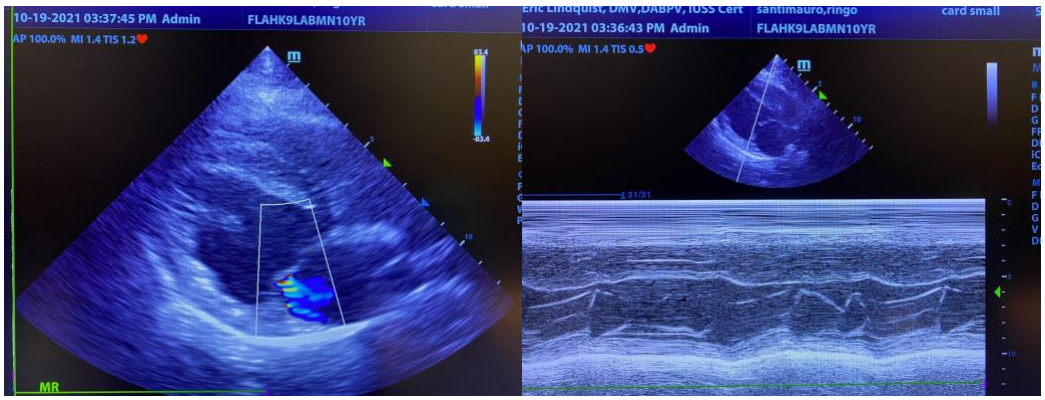
13864

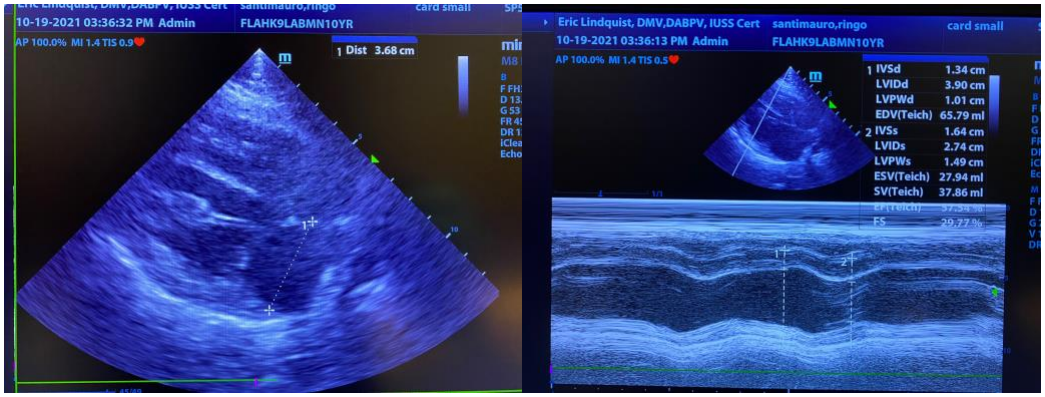
**DATE**

10/19/21

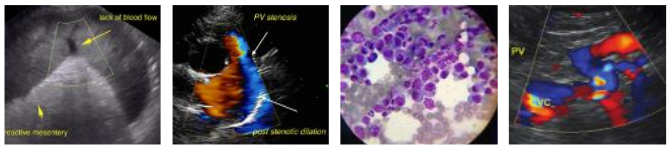


SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™




SonoPath.com
1-800-838-4268 info@sonopath.com

**PATIENT**

Ringo Santimauro

**SPECIES**

Canine

**BREED**

Lab

**SEX**

Neutered Male

**AGE**

10 Years

**WEIGHT**

95 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Eric Lindquist, DMV
DABVP, Cert. IVUSS

**HOSPITAL NAME**

Franklin Lakes AH

**REFERRING VET**

Dr. Ward

**INVOICE**

13864

**DATE**

10/19/21

**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.**

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, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com