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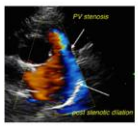
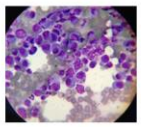
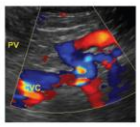

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1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT

Henry Mendoza

SPECIES

Canine

BREED

Japanese Chin

SEX

MN

AGE

15yr

WEIGHT

9.7lb

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

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Sarah Pender CVT

HOSPITAL NAME

SVS Imaging QC

REFERRING VET

Dr. Haenni

INVOICE

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PRESENTING CLINICAL SIGNS

Presented for vaccines. mouth seems sore

Abnormal PE/Chem/CBC/UA Results: Grade 2/6 heart murmur. Rads: shadow cranial to heart but doesn't appear to be attached to the heart. BUN 39.1- rest of CBC/Chem WNL

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART

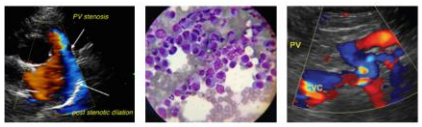
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT		2.2		1.4	36	70	0.25
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**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	135	1.0	0.7		2.2	2.1	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal left atrial size based on 2 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal mitral valve leaflets presented moderate to marked thickening more prominent in the septal mitral valve leaflet consistent with endocardiosis. Doppler indicated measurable eccentric insufficiency with two MR jets visualized. The left ventricle presented thicknesses with linear contour and was not dilated nor restricted. The myocardium presented normal echogenicity with evidence of mild myocardial remodeling 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 valvular assessment demonstrated concurrent valvular thickening with mild TR on Doppler. 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). Trace pulmonic insufficiency was present on Doppler. 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.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.



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Normal size and margination was present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Minor medullary mineral was present bilaterally. Bilateral intermittent small cortical cysts were present. The left kidney measured 2.9 cm in length. The right kidney measured 3.5 cm in length.

The area of the aortic trifurcation was free of pathology.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.43 cm width at the caudal pole and 1.0 cm length. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.38 cm width at the caudal pole and 1.6 cm length.

Spleen

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted. The spleen measured – cm in width at the level of the hilus.

Liver

The liver exhibited mild enlargement with the ventral liver extending caudally past the level of the gastric axis. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to moderate parenchymal remodeling. A solitary intraparenchymal cyst was present measuring 1.8 cm in diameter. The hepatic and portal vasculature were normal in appearance without signs of congestion.

The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content with mild non-dependent echogenic debris. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

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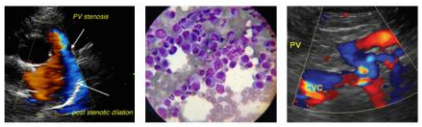

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ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease with moderate to marked septal leaflet thickening and suspected mild prolapse-2 separate MR jets present
- TV insufficiency-estimated pulmonary pressure gradient not consistent with overt clinical pulmonary hypertension
- Trace pulmonary insufficiency
- Mild hepatomegaly exhibiting benign parenchymal remodeling and solitary intraparenchymal cyst
- Mild gallbladder debris (non-mucocele)
- Moderate chronic renal changes with minor medullary mineral

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is variable chronic degenerative valvular changes with secondary primarily eccentric mitral valve and mild tricuspid valve insufficiency. The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is low at this time and, without current clinical signs, indicates that medical therapy is not overtly indicated. Serial sonographic monitoring is required for further prognosis with a recheck echocardiogram in 6-12 months, sooner if clinical signs suggestive of heart disease develop.

No evidence of cardiac tumors or evidence of pericardial or pulmonary pathology was present in the visible window. This may indicate a non-visible cranial pulmonary lesion which is surrounded by aerated lung and not overtly evident on sonographic assessment. Radiology assessment of three view chest radiographs may be considered for further interpretation.

Hepatosupportive medications such as Denamarin or Vitamin E as well as Ursodiol due to its antioxidant and immunomodulatory effects within the liver would be warranted if evidence of hepatic enzyme elevations are noted going forward.

Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.

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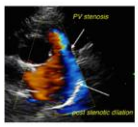
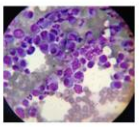
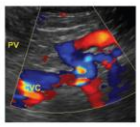

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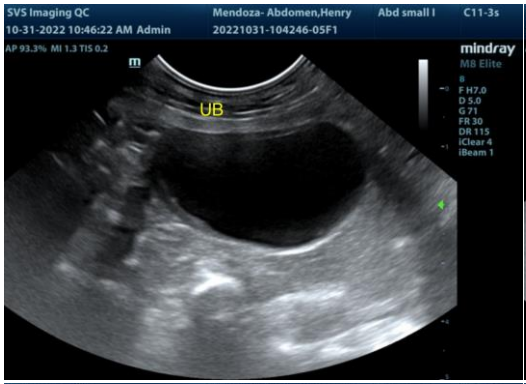

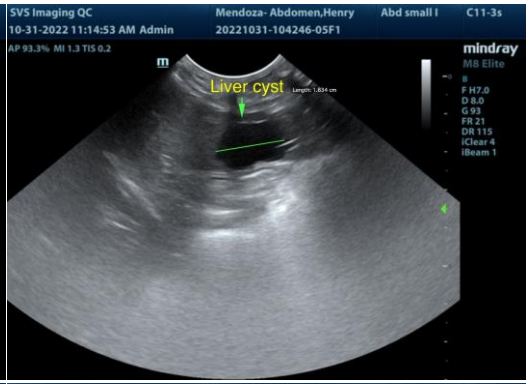

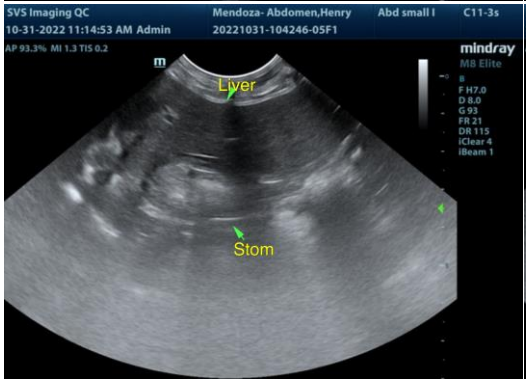

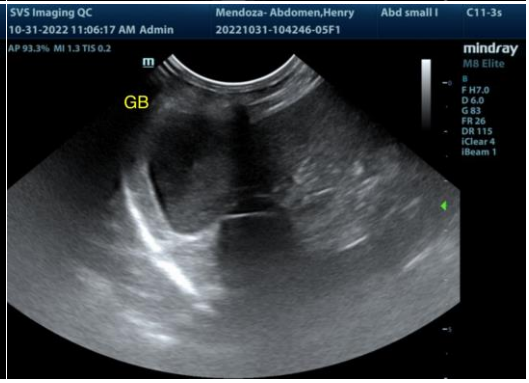

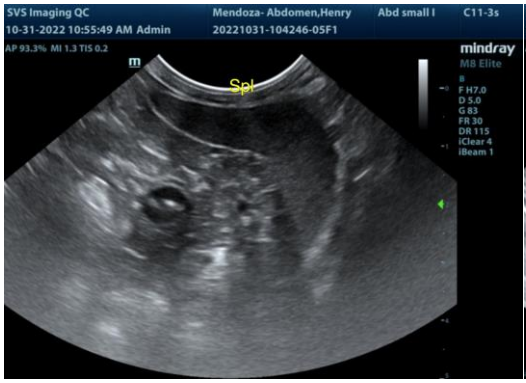

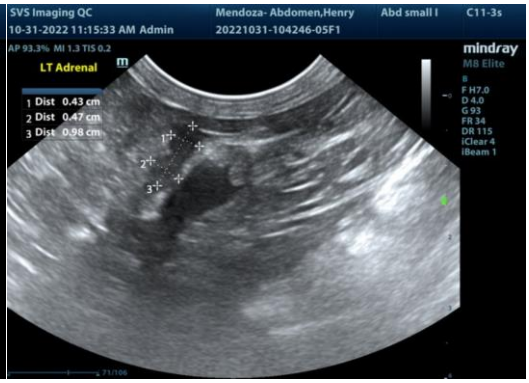

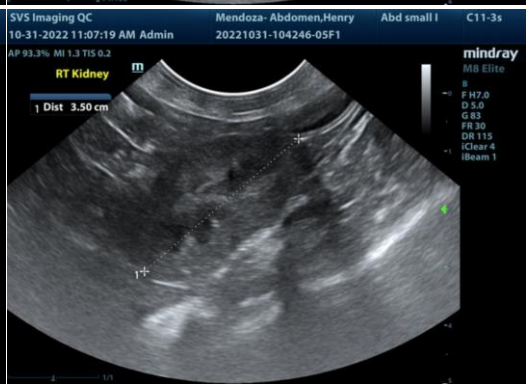

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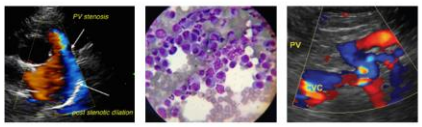

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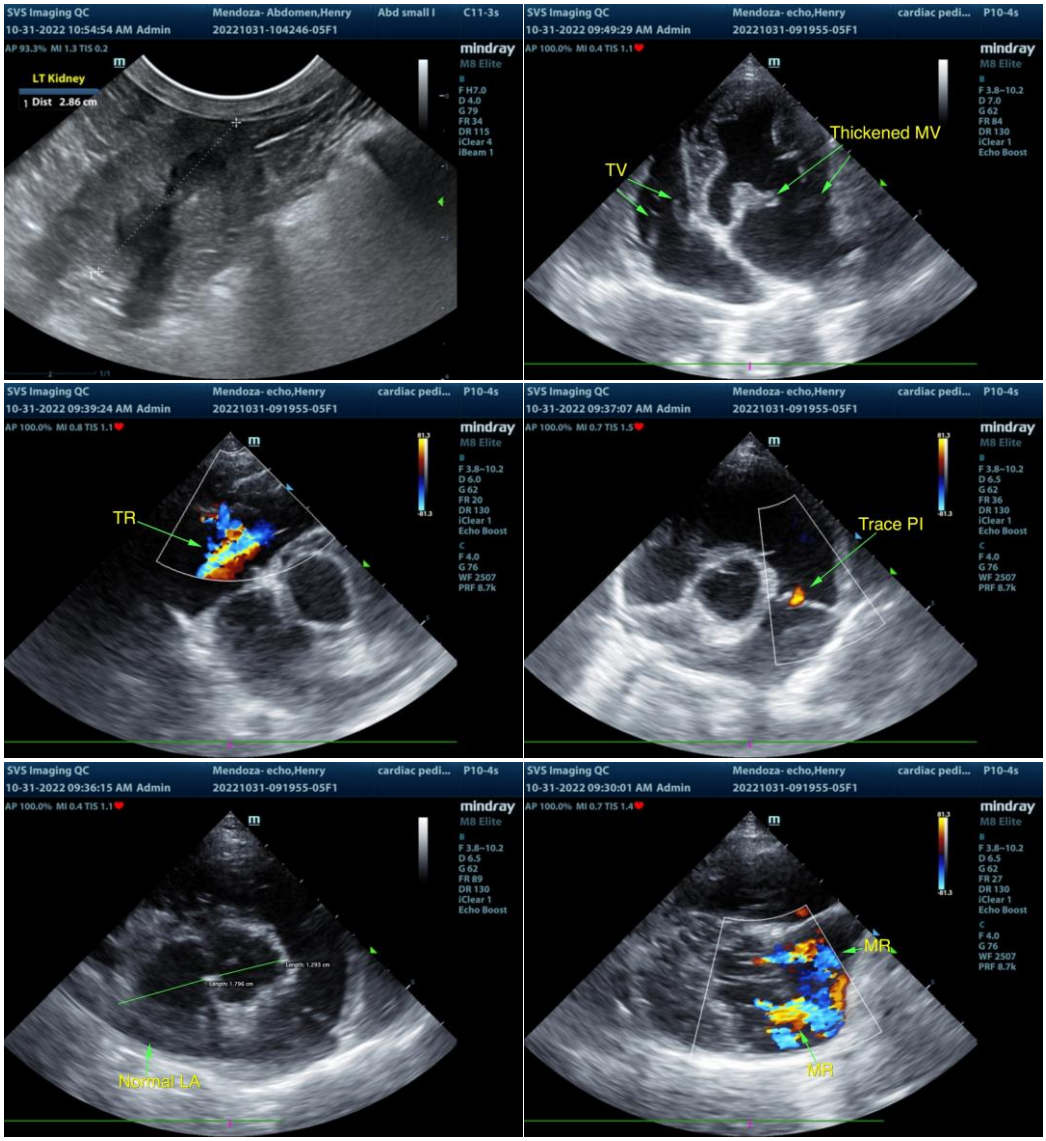

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com