



## PATIENT

Hogan Saucyn

## SPECIES

Canine

## BREED

Poodle Mix

## SEX

MN

## AGE

12 years

## WEIGHT

16.3 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Shari Reffi, CVT

## HOSPITAL NAME

Long Valley A.H.

## REFERRING VET

Dr. Earl

## INVOICE

16737

## DATE

5/3/23

## PRESENTING CLINICAL SIGNS

Newly detected cardiac grade I-II/VI murmur; Hx of calcium ox stones (cystotomy 10/19/22) Current meds: SO diet; Potassium Citrate (Citravet) 3/4 tab bid.

Abnormal PE/Chem/CBC/UA Results: Anaplasma + (chronic); U/A-USG 1.042, dark yellow; turbid; PH 7; 3+ struvite; 3+ CaOx.

## 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	<1.3	28-40	40-100	<0.6
PATIENT		2.2	1.1	1.1	43	78	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				
PATIENT	119	1.0	0.86		2.2	2.2	

### Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented mild thickening consistent with mild endocardiosis. No evidence of valvular prolapse was noted. Doppler indicated mild centralized to eccentric 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** valvular assessment demonstrated mild 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). 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.



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**Urinary System**

Hogan Saucyn

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with a small cystic calculus measuring 0.65 cm in diameter, present in the dependent urinary bladder. 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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The residual prostate was free of pathology.

No evidence of pathology in the area of the aortic trifurcation.

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Normal size and margination were 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. Pinpoint to focal areas of medullary mineral were noted in both kidneys. The left kidney measured 3.4 cm in length. The right kidney measured 4.0 cm in length.

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**Adrenal Glands**

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The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.39 cm width at the cranial pole and 0.55 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 1.4 cm length x 0.44 cm width at the caudal pole.

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**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.

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**Liver/ Gallbladder**

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The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size containing primarily anechoic content with mild gallbladder debris. The cystic and common bile ducts were normal.

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**Gastrointestinal**

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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.

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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.



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**Pancreas**

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The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum, consistent with age-related pancreatic remodeling. No signs of active inflammation or neoplasia.

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**Free Abdomen**

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No evidence of omental masses or peritoneal effusion was present. Intermittent incidental minor benign / reactive mesenteric lymph nodes were present.

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## ULTRASONOGRAPHIC FINDINGS

- Compensated chronic mitral valve disease (ACVIM B1)
- TR - no evidence of clinical pulmonary hypertension
- Small persistent nonobstructive cystic calculus
- Moderate chronic renal changes with medullary mineral
- Minor hepatic parenchymal remodeling
- Gallbladder debris (non-mucocele)

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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary MR / TR. No evidence of left or right heart volume overload, indicating low current and future risk secondary to MR. No indication for medications at this stage. Prognosis is variable and sonographic monitoring is recommended. Recheck echocardiogram is recommended in 8-12 months, sooner if clinical signs arise or if murmur intensity increases.

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Largely geriatric abdomen without evidence of significant visceral pathology.

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Screening urine C/S to rule out underlying infection is suggested. The small cystic calculus does not appear to be a clinical issue at this time without evidence of concurrent cystitis criteria. Continued dietary therapy and monitoring for evidence of dysuria are suggested.

## REFERRING VET

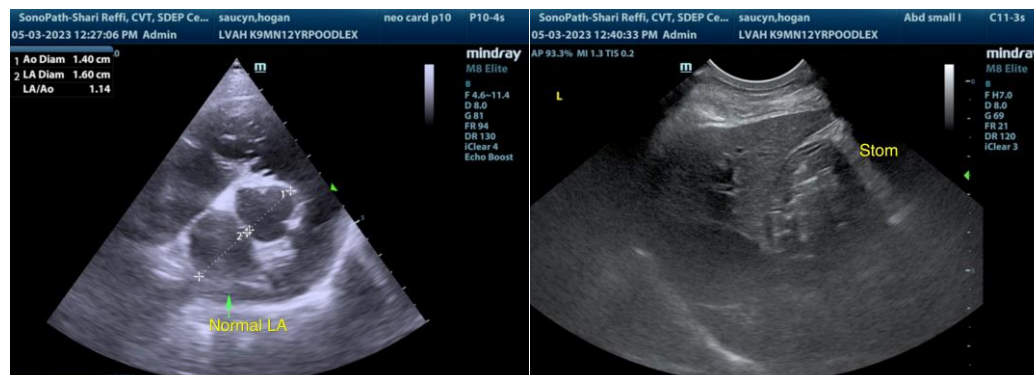
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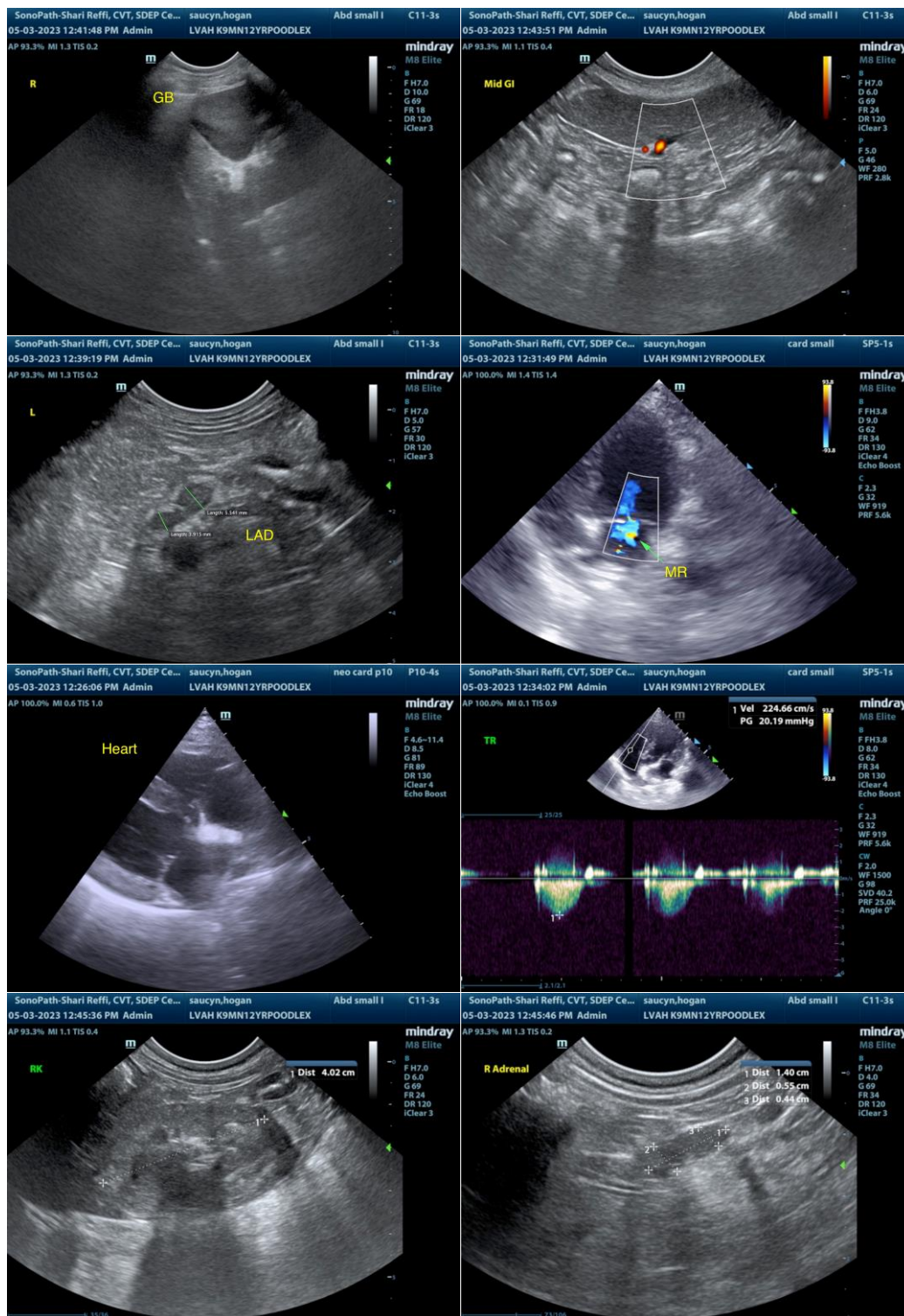
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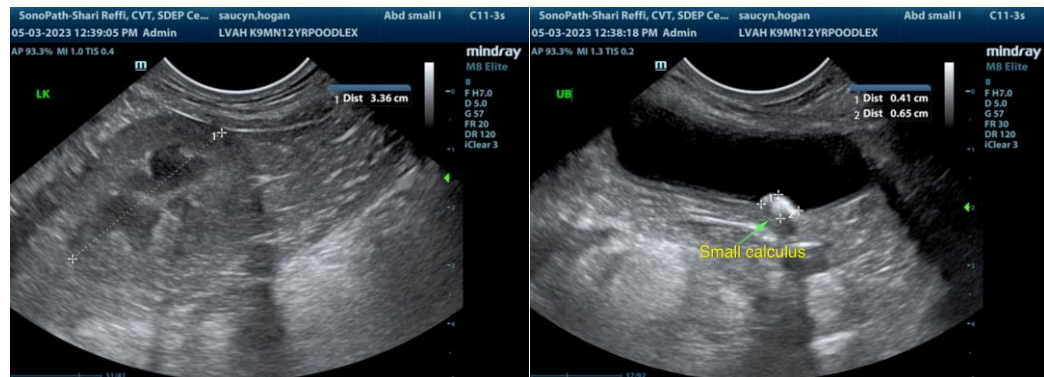
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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