


PATIENT

Deacon Meehan

PRESENTING CLINICAL SIGNS

Elevated liver values, grade II/VI murmur.

SPECIES

Canine

Current meds: Cerenia, Unasyn, Entyce, Denamarin

Abnormal PE/Chem/CBC/UA Results: cpl abnormal, ALT 505 then 799, ALP 2829 then 3021

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART
BREED

Mini Poodle

SEX

MN

AGE

12yr

WEIGHT

21lb

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	5.0	2.0	1.3	1.4	43	78	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	106	1.4	1.3		2.9	2.84	

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi CVT

HOSPITAL NAME

Newton Vet

REFERRING VET

Dr, Chun

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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 moderate thickening consistent with endocardiosis. Doppler indicated measurable 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. Normal LVOT with mild aortic insufficiency on Doppler. 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. 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). Normal measured RVOT velocity with minor pulmonic insufficiency 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 to a depth of 2 cm 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.



PATIENT	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 mild to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 5.3 cm in length. The right kidney measured 5.2 cm in length.
Deacon Meehan	
SPECIES	
Canine	The area of the aortic trifurcation was free of pathology. The area of the residual prostate appeared normal and free of pathology.
BREED	Adrenal Glands
Mini Poodle	The bilateral adrenal glands were prominent in size with symmetrical capsule contour and mildly heterogenous parenchyma. The left adrenal gland measured 0.79 cm width at the caudal pole and 2.0 cm length. The right adrenal gland measured 0.75 cm width at the caudal pole and 2.0 cm length.
SEX	Spleen
MN	The spleen exhibited areas of mild capsule asymmetry with a finely textured and homogenous parenchyma. Subjective mild prominent isoechoic cranial spleen was noted measuring ~ 2.2 cm in diameter. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis.
AGE	Liver/Gallbladder
12yr	The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion.
WEIGHT	
21lb	The gallbladder was distended in size with echogenic thickening of the gallbladder wall. There was biliary sludge that appeared to be non-mobile and organized. A stellate pattern to the organized biliary sludge was present. Evidence of pericholecystic omental inflammation and effusion was present.
INTERPRETED BY	Gastrointestinal
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	The stomach presented wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Mild gastric distension with primarily anechoic fluid was present. The small intestine presented intact wall layering with mild prominent mucosa layer. 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.
IMAGING PERFORMED BY	Pancreas
Shari Reffi CVT	The pancreas presented hypoechoic to heterogeneous echogenicity compared to adjacent omental fat. Mild asymmetrical capsule margination was present with mild variable parenchymal swelling and mild peripancreatic reactivity / inflammation. No overt evidence of neoplasia.
HOSPITAL NAME	Free Abdomen
Newton Vet	No omental masses, overt lymphadenopathy or peritoneal effusion was present.
REFERRING VET	ULTRASONOGRAPHIC FINDINGS
Dr, Chun	<ul style="list-style-type: none"> • Compensated chronic mitral valve disease (ACVIM B1) • Mild TR-no evidence of clinical pulmonary hypertension
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PATIENT

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- Mild aortic and pulmonic insufficiency
- Inflamed gallbladder mucocele with peripheral inflammation and scant pericholecystic effusion
- Acute on chronic hepatopathy
- Concurrent mild pancreatitis
- Gastroenteritis pattern-subjectively acute
- Non-specific mild cranial splenomegaly-subjectively benign
- Bilateral prominent adrenal glands

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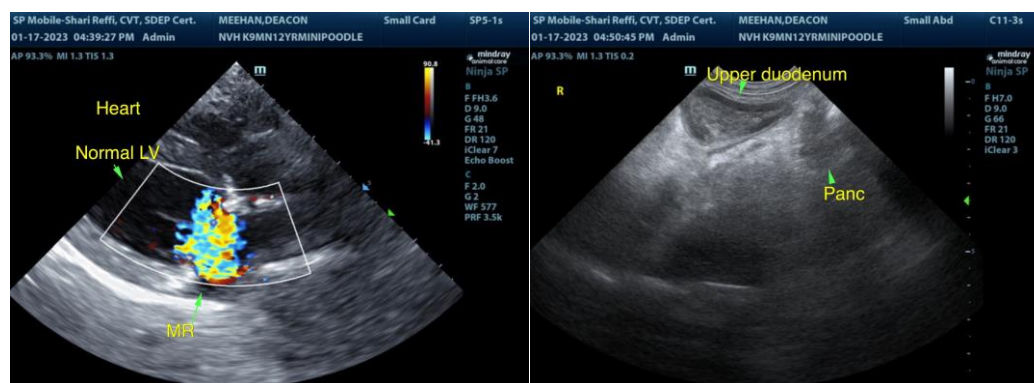
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is relatively low at this time and, without current clinical signs, indicates that medical therapy is not required at this stage. Prognosis at this stage is variable and serial sonographic monitoring is recommended with a recheck echocardiogram in 6-12 months, sooner if clinical signs suggestive of heart disease develop. Assessment of systemic BP is recommended to rule out hypertension given the presence of aortic insufficiency. No overt anesthetic contraindications.

Cholecystectomy assuming normal clotting status and continued perioperative antibiotics including haptic biopsies is recommended given evidence of possible emerging bile peritonitis. A very guarded prognosis is indicated with possible concurrent pancreatitis as a comorbidity.

Gross inspection of the spleen and GI tract at the time of surgery is recommended although no obvious evidence of infiltrative splenic or GI neoplastic criteria.

Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.





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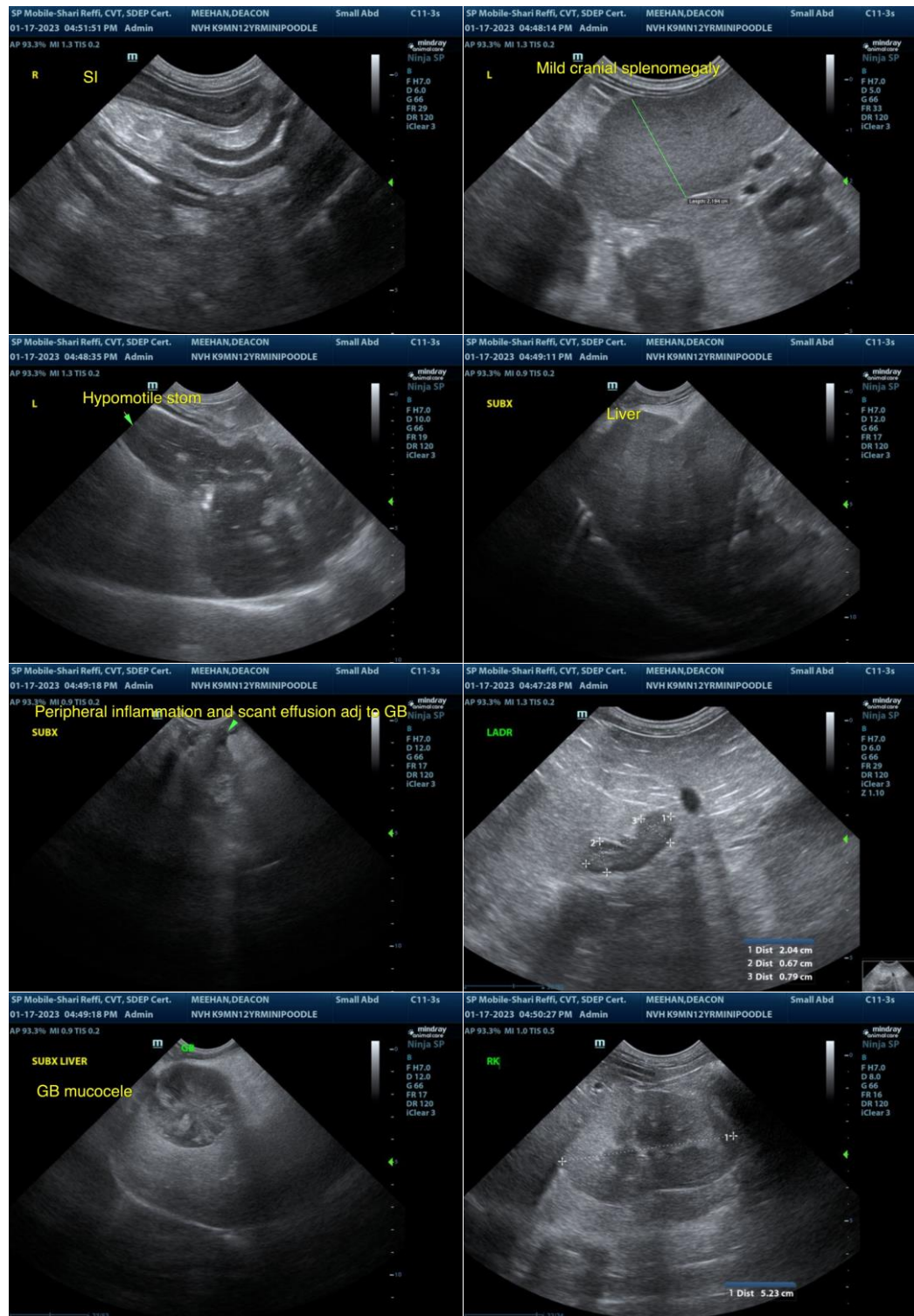
Dr. Chun

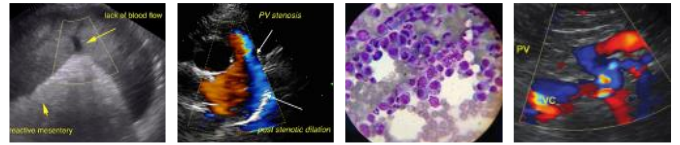
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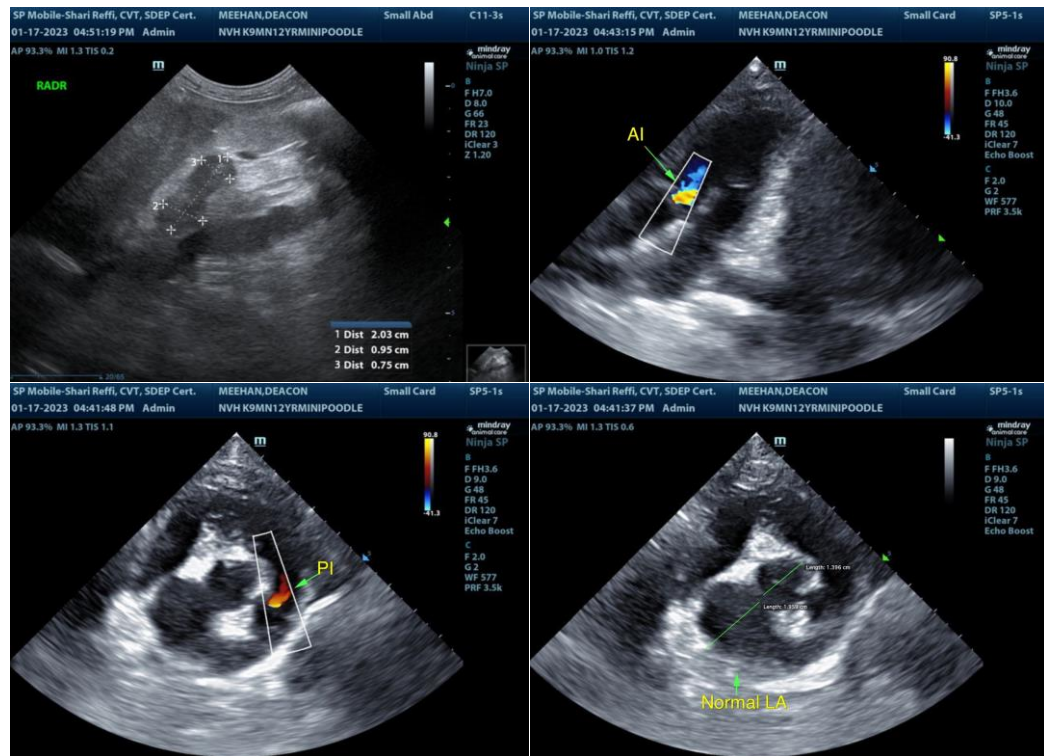
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
mac.daniel@sonopath.com