SonoPath
Clinical Sonography & Telecytology
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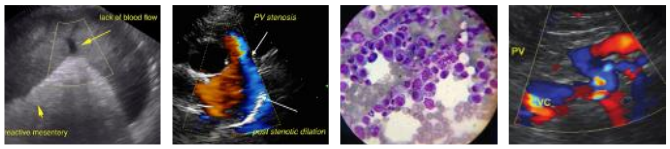


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Vito Crasci

SPECIES
Canine

BREED
Schnauzer Mix

SEX
MN

AGE
10yr

WEIGHT
22.35lb

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

IMAGING PERFORMED BY
Kelly Vazquez

HOSPITAL NAME
Animal Paradise Hospital

REFERRING VET
Dr. ElShafie

INVOICE
12636ag

DATE
01/09/2023

PRESENTING CLINICAL SIGNS

Cardiomegaly, check urinary bladder. No current reported meds.

Abnormal PE/Chem/CBC/UA Results: U/A: WBCs 4-10, RBC >50, CaOx dihydrate 2-3 and CaOx mono 4-10, transitional epithelia 2-3 and squamous epithelia, protein 2+, blood 3+.

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				1.4	31	56	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	102	1.2	0.85		3.0	3.1	

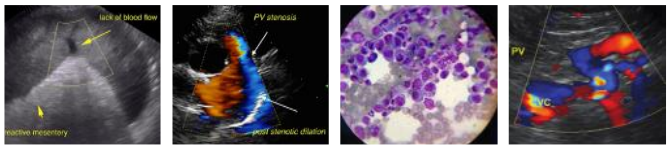
Cardiac Presentation

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 endocardiosis. Doppler indicated measurable mild to moderate eccentric insufficiency. The left ventricle presented thicknesses with linear contour and LV volume and was not dilated nor restricted. The myocardium presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. The contractility of the ventricular walls was borderline subnormal yet likely adequate as 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 adequate linear morphology. 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.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra exhibited normal tone to a depth of 2 cm. Mild nonuniform thickening of the ventroapical urinary bladder wall was present measuring 0.55 cm in width. A solitary calculus measuring 1.2 cm in diameter was present.

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



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mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. A small thinly walled medial left kidney cyst was present. The left kidney measured 4.6 cm in length. The right kidney measured 5.0 cm in length

The area of the aortic trifurcation was free of pathology.

The area of the residual prostate appeared normal and free of pathology.

Adrenal Glands

The bilateral adrenal glands were normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 1.6 cm length and 0.51 cm width in the caudal pole. The right adrenal gland measured 1.8 cm length and 0.47 cm width in the caudal pole.

Spleen

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age related remodeling with minor potential for inflammatory or neoplastic disease.

Liver/Gallbladder

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. Focal to intermittent well demarcated hyperechoic nodules were present, an example measuring 1.2 cm in diameter. 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.

The gallbladder was non-distended in size with primarily anechoic luminal content and moderate congealed non-organized hyperechoic sludge. No evidence of gallbladder or peripheral gallbladder inflammation was present. 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 omental masses, overt lymphadenopathy or peritoneal effusion was present.

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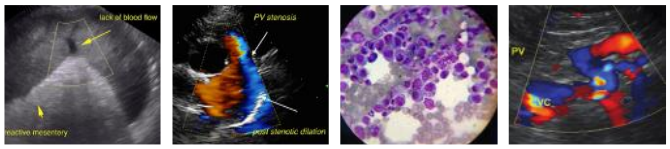

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ULTRASONOGRAPHIC FINDINGS

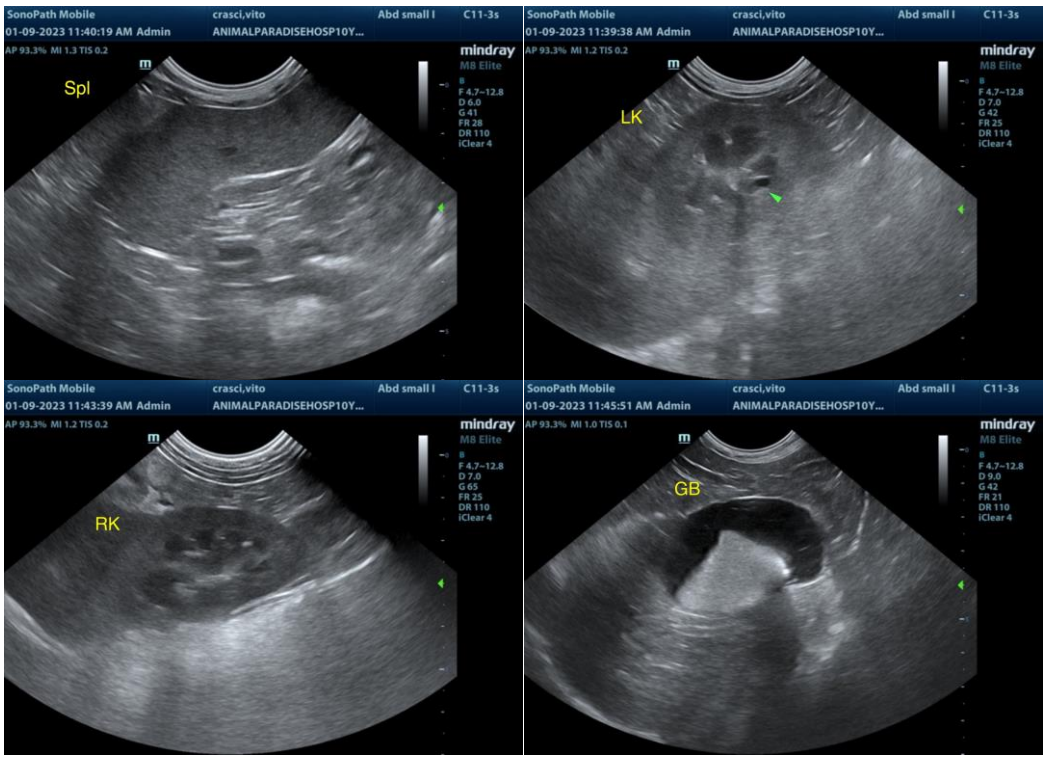
- Chronic mitral valve disease (ACVIM B1)
- Borderline subnormal yet subjective adequate LV contractility
- Solitary cystic calculus with concurrent mild cystitis
- Mild age related renal changes with small left kidney cyst
- Hepatic parenchyma remodeling with non-specific intraparenchymal nodules-most consistent with hyperplasia or lipogranulomas
- Moderate congealed gallbladder debris (non-mucocele)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Even without a reported murmur in this patient the cardiac presentation is consistent with compensated mild degenerative valvular changes and secondary MR. 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 months, sooner if clinical signs suggestive of heart disease develop.

Anesthetic risk is considered mild assuming normal systemic BP. 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.

A urine C/S on a sterile urine sample to assess for or rule out underlying UTI is recommended. No evidence of lower urinary tract neoplastic criteria was present. A cystotomy with stone analysis +/- urinary bladder mural biopsy is warranted. Hepatosupportive medications such as Denamarin and Ursodiol suggested if evidence of cholestasis is present.



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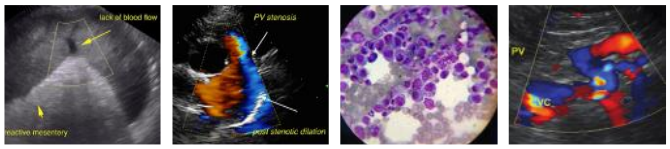

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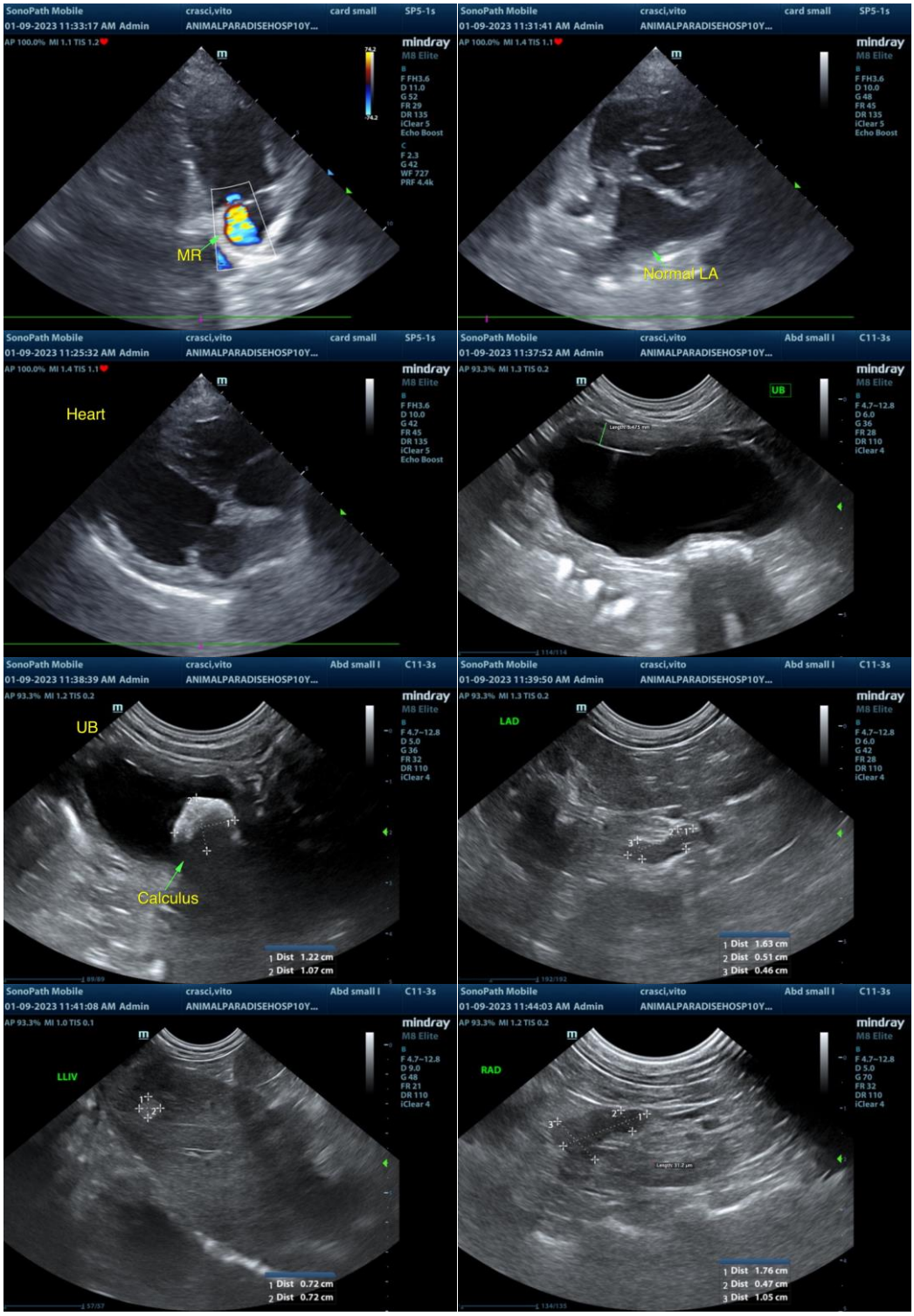
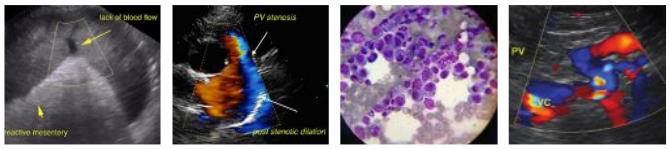


The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I



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can be of any further assistance, please contact me.

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mac.daniel@sonopath.com