


**PATIENT**

Mafe Fernandez

**PRESENTING CLINICAL SIGNS**

Breed: Miniature Pinscher

**SPECIES**

Canine

History: Patient presents with history of chronic bronchitis - coughing, fibrosis, and pancreatopathy. Current meds: Albuterol nebulization and Theophylline.

**BREED**

Miniature Pinscher

Abnormal PE/Chem/CBC/UA Results: Calcium 0.0, magnesium 0.5, potassium 22.4, Na/K ratio 6, cholesterol 911, triglycerides 1,045, amylase, WBC 18.1, platelet count 428, neutrophils 15,204, T4 &lt;0.5. U/A: protein 2+, WBC 2-3, squamous epithelia 2-3. PT 8.7/APTT 14.8.

**SEX**

Spayed female

**AGE**

13 years

**WEIGHT**

NA

**INTERPRETED BY**

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

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART AND 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			1.46	1.42	43.8	78.4	0.23
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	116	1.55	1.1		2.97	3.2	

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 Kelly Vazquez

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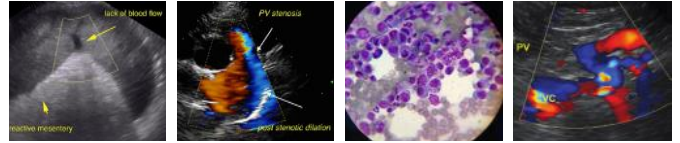
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**DATE**

03/18/2022

**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 vegetative thickening consistent with endocardiosis. Doppler indicated mild 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 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. No overt evidence of a cardiogenic cough was noted. The cranial mediastinum and pericardial regions were free of masses in the visible window.



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**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.

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 loss of corticomedullary symmetry and definition expected for the age of the patient. A thinly walled cranial cyst containing anechoic fluid measuring 2.1 cm in diameter was present. No evidence of pelvic dilation was present. The left kidney measured 4.9 cm in length. The right kidney measured 6.0 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 0.50 cm width at the caudal pole and 0.46 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.62 cm width at the caudal pole and 0.87 cm width at the cranial pole.

**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.

**Liver**

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 and exhibited areas of subtle wall edema. The dorsal gallbladder wall measured 0.19 cm width. Primarily anechoic luminal content with mild nonmineralized debris to mucus noted primarily along the intraluminal wall. No evidence of peripheral gallbladder inflammation was noted. The cystic and common bile ducts were normal.

**Gastrointestinal**

The stomach exhibited primarily intact to mildly prominent wall layering. The lumen of the stomach was empty with mild luminal gas and no signs of ileus, obstruction or foreign material. The ventral gastric body wall measured 0.39 cm. A moderately sized subjectively encapsulated fluid filled lesion appearing to involve the caudal gastric body and antrum wall measuring 3.9 cm in diameter was present. The fluid filled lesion contained primarily anechoic fluid with subjective mild cellular component. Subtle evidence of regional reactive mesentery noted around the lesion.

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.



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

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**Pancreas**

**SPECIES**

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

Canine

**Free Abdomen**

No overt lymphadenopathy or peritoneal effusion was present.

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Miniature Pinscher

**ULTRASONOGRAPHIC FINDINGS**

**SEX**

**Cardiac**

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- Compensated mitral valve disease (ACVIM B1)

**Abdomen**

**AGE**

13 years

- Unspecified fluid filled subjectively encapsulated lesion involving the caudal gastric wall, associated mild regional mild reactive mesentery-gastric mural abscess, cyst, necrosis or other, potential for neoplasia or possible primary pancreatic origin of the fluid filled lesion possibly impending upon the caudal gastric wall cannot be excluded.
- Hepatopancreatic parenchymal remodeling-subjectively benign.
- Moderate chronic renal changes with cranial right kidney cyst.
- Mild gallbladder wall edema with mild nonorganized luminal debris to mucus-potential mild gallbladder inflammation or possible very early gallbladder mucocele.

**WEIGHT**

NA

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Echocardiogram is consistent with chronic degenerative valvular changes with mild secondary eccentric mitral valve insufficiency. The lack of left atrium enlargement implies that the risk or current and future complication is low in a nonclinical patient without evidence of clinical signs. Cardiac medications are not indicated. Conservative monitoring is recommended. Recheck echocardiogram is recommended in 6-12 months, sooner if clinical signs arise. No anesthetic contraindications.

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Ultrasound guided FNA of the fluid filled lesion associated with the caudal gastric wall for analysis, cytology and C/S is warranted. Laparotomy with gross inspection of the gastric mural lesion with potential for resection could be considered pending additional diagnostics.

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

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Reassessment of electrolytes is recommended.

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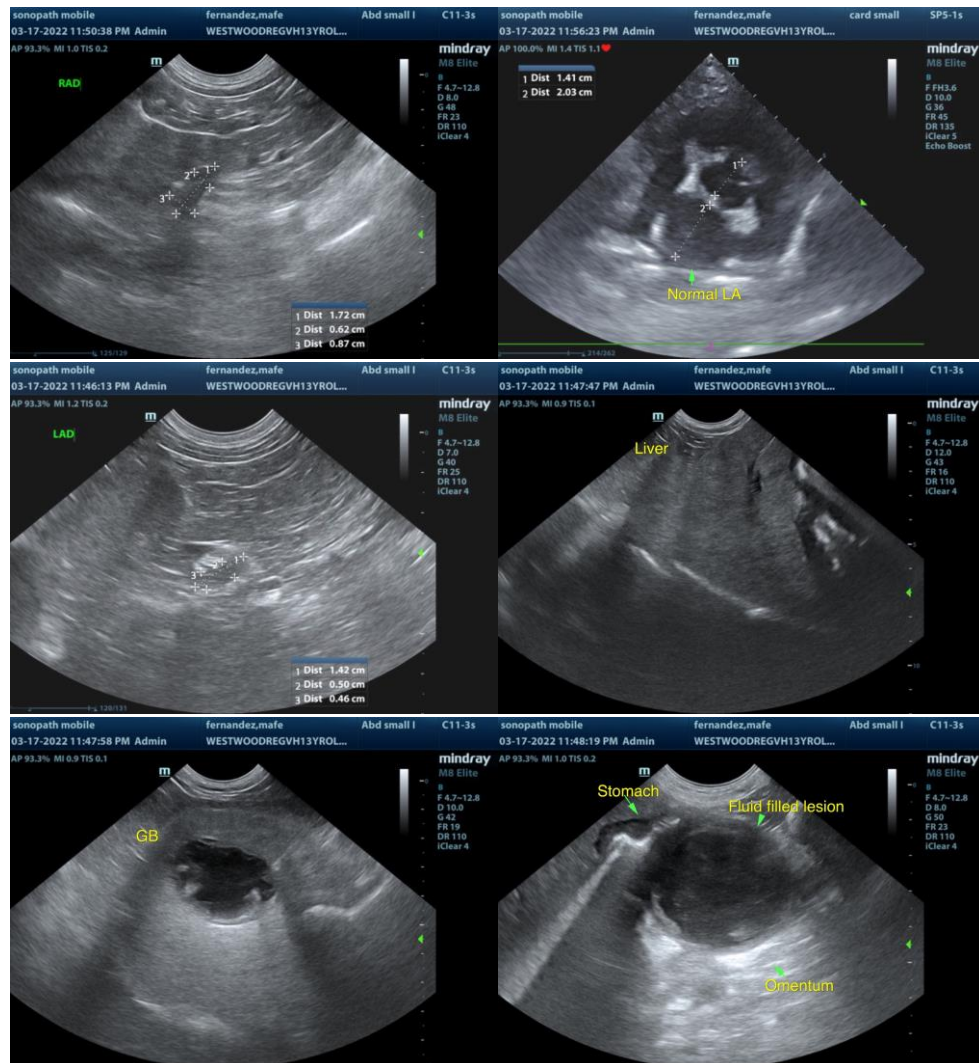
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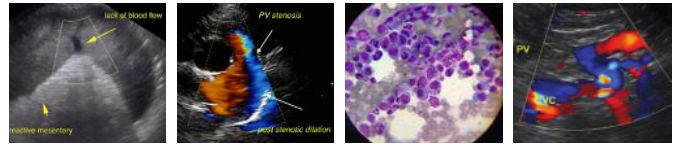
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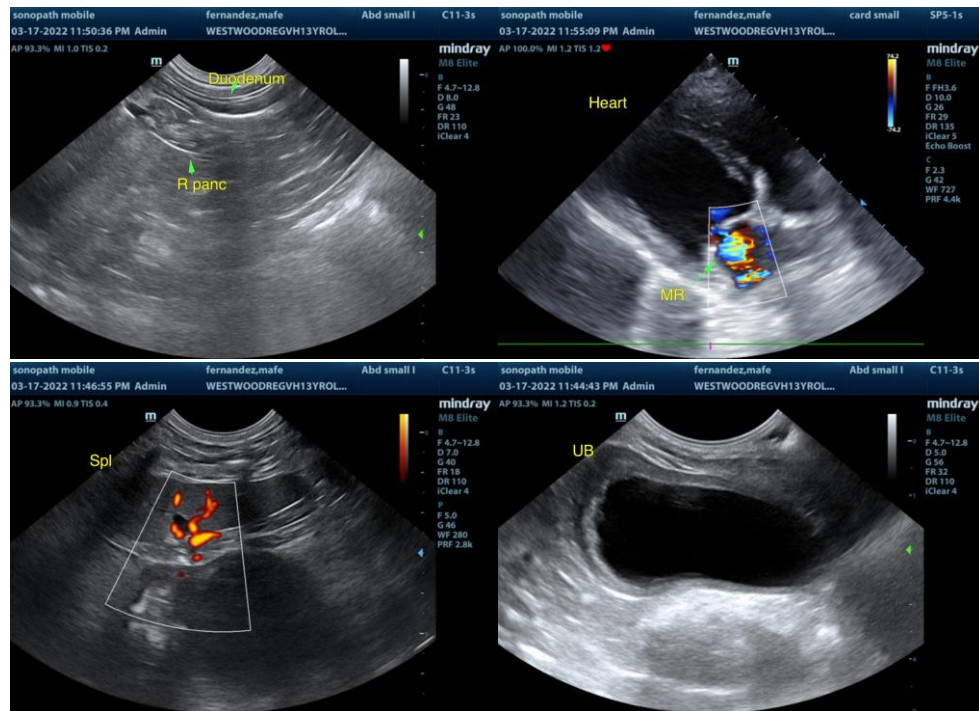
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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