



PATIENT

Pearl Lipari

SPECIES

Canine

BREED

English Bulldog

SEX

FS

AGE

10 years

WEIGHT

64 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Animal Mansion

REFERRING VET

Dr. Parker

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DATE

1/7/22

PRESENTING CLINICAL SIGNS

Presented for 2nd opinion from vet. rDVM placed pet on Enalapril and Furosemide, w/ no change to cough. No murmur auscultated. Current meds: Enalapril 20mg bid, Furosemide 50mg bid
Abnormal PE/Chem/CBC/UA Results: TP 8.1, Globulins 5.2, Neut 12118, AG ratio 0.6

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	<1.6	28-40	40-100	<0.6
PATIENT			1.1	1.37	43.2	77.8	0.3
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	144	1.1	1.1		3.9	3.7	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window. No overt evidence of arrhythmogenic disease was noted.



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Urinary System

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The urinary bladder, trigone, and cystourethral junction 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 was noted.

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The area of the aortic trifurcation was free of pathology.

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Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 5.4 cm in length. The right kidney measured 6.2 cm in length.

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Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.69 cm width at the caudal pole and 0.55 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 0.54 cm width at the caudal pole and 0.49 cm width at the cranial pole.

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Spleen

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The spleen exhibited normal size and contour with subtle generalized splenic parenchyma heterogeneity. Focal to intermittent, non-expansive, subtly hypoechoic nodules were present. An example of a splenic nodule measured 1.5 cm in diameter.

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Liver/ Gallbladder

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. 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. The cystic and common bile ducts were normal.

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Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained mild to moderate, nonshadowing ingesta most consistent with post prandial presentation without 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.

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

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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 were evident.



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Free Abdomen

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No overt lymphadenopathy or peritoneal effusion was present.

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ULTRASONOGRAPHIC FINDINGS

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Primary Findings

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- Overtly normal cardiac structure and function for breed
- Nonspecific focal to Intermittent splenic nodules

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Secondary Findings

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- Gastric Ingesta - suspect post prandial presentation

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

10 years

No evidence of structural or functional cardiomyopathy was noted. No clinical issues such as systolic dysfunction, cor pulmonale, or evidence of clinical pulmonary hypertension were present. Given the overall normal cardiac presentation without evidence of left or right heart chamber enlargement, the coughing in this patient is most likely noncardiogenic in origin. Consideration for primary lower or upper airway disease is likely indicated. Potential for some degree of Pickwickian Syndrome may be possible, given the patient's potential body condition. No indication for cardiac medications was evident. Primary lower respiratory therapy is suggested.

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Potential etiologies for the splenic nodules may include benign processes such as nodular hyperplasia, extramedullary hematopoiesis, hematoma, infection, infarction, or neoplasia. Ultrasound guided FNA of the nodule using 25-gauge needle and assuming normal coagulation parameters may be considered. Otherwise, sonographic monitoring of the splenic nodules for any changes in size or appearance with initial recheck in 3-4 weeks would be a more conservative approach.

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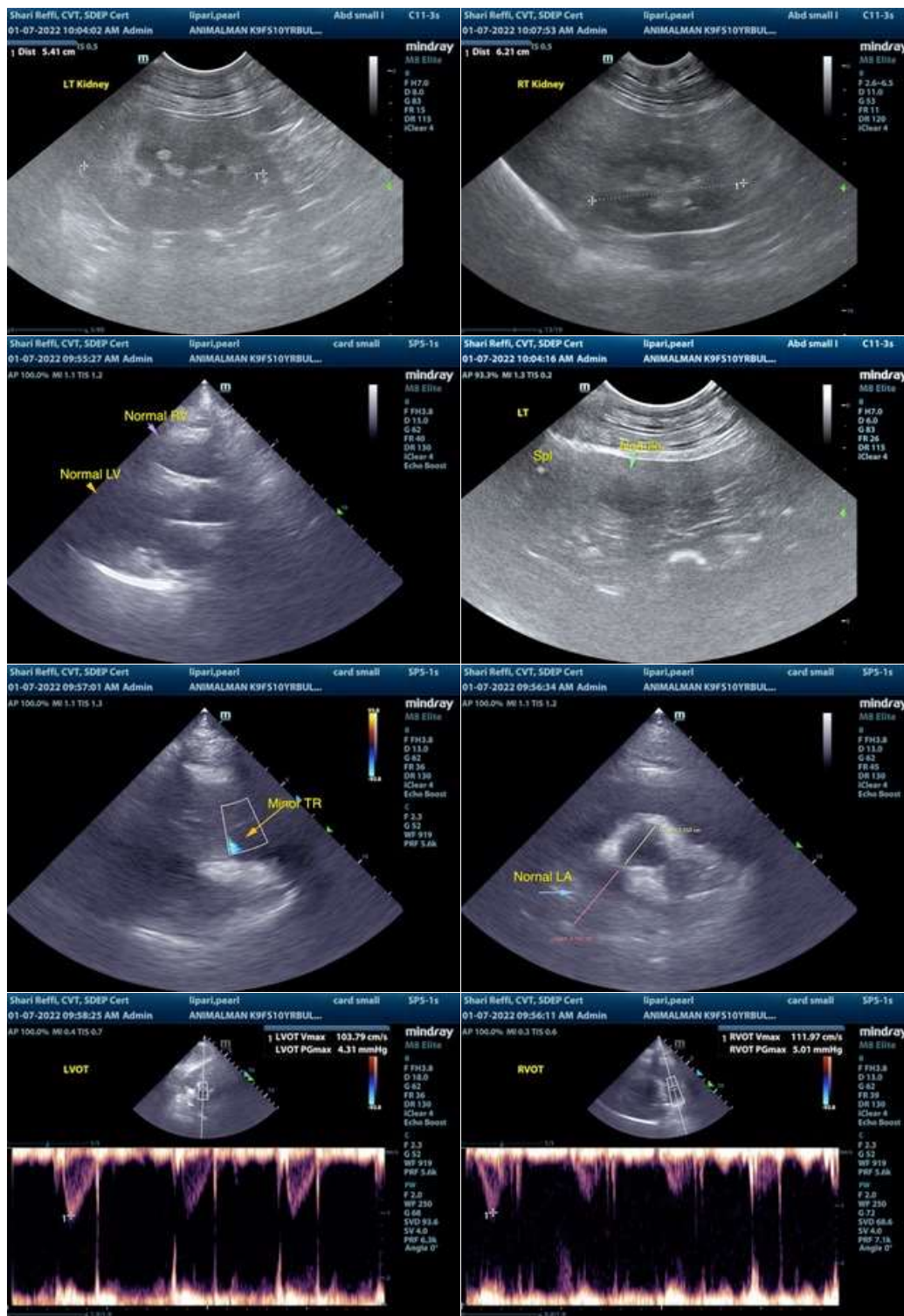
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.



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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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