



PATIENT

Doogie Wagner

SPECIES

Canine

BREED

Chi Poo Mix

SEX

MN

AGE

12 years

WEIGHT

17 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Animal Care Centers
of Flanders

REFERRING VET

Dr. Hallihan

INVOICE

13356

DATE

2/15/22

PRESENTING CLINICAL SIGNS

urinating in the house, tense abdomen, shaking episodes, hx of respiratory issues and sick euthyroid
Abnormal PE/Chem/CBC/UA Results: mildly incr ALKP; T4 low; UA: borderline isosthenuria

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			1.24	1.23	38.5	72.1	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	BELOW	BELOW	BELOW	BELOW
PATIENT	160	1.5	1.2		2.4	2.6	

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 minor vegetative thickening suggestive of mild endocardiosis. Doppler indicated measurable 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. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

Urinary System

The urinary bladder was subnormal in size owing to lack of urine distention. Generalized yet uniform mildly prominent urinary bladder walls were present exhibiting normal echogenicity and without



PATIENT	evidence of mineralization or neoplastic criteria. The urinary bladder wall measured 0.43 cm width. No sediment or calculi was noted. The urethra was normal in structure and tone to a depth of 3.0 cm.
Doogie Wagner	
SPECIES	The residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture measuring 0.79 cm in diameter.
Canine	The area of the aortic trifurcation was free of pathology.
BREED	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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Focal lateral cortical infarction was present in the right kidney. The left kidney measured 4.0 cm in length. The right kidney measured 3.8 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 0.58 cm width at the caudal pole and 0.4 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 0.47 cm width at the caudal pole and 0.65 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/ Gallbladder

The liver was moderately enlarged in size. Symmetrical hepatic contour was maintained. The liver exhibited nonuniform, generalized echogenic hepatic parenchyma with moderate coarse echotexture. Multiple, discreet, hypoechoic intra-parenchymal nodules were present. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. 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 pancreas was normal in size and contour with mildly heterogeneous parenchyma compared to adjacent mildly echogenic peripancreatic omentum.



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Free Abdomen

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No overt lymphadenopathy or peritoneal effusion was present.

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ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function
- Mild MR
- Mild chronic renal changes with suspect right kidney cortical infarction
- Hepatomegaly exhibiting nonuniform mild echogenic parenchyma with multifocal discrete hypoechoic nodules
- Heterogeneous pancreas - possible low-grade pancreatitis
- Possible mild cystitis

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The mild MR does not appear to be hemodynamically significant given the lack of left atrium enlargement, which indicates that the risk of complication secondary to MR is low. In indication for cardiac medications. Recheck echocardiogram is suggested in 6 months to monitor for progression.

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Overall, the liver was nonspecific with considerations including vacuolar hepatopathy given the ALP elevation with potential for nonspecific hepatitis with suspected areas of regenerative hyperplasia, hematopoiesis, or small lipogranulomas. Hepatic neoplasia is considered a less likely differential diagnosis. Assuming normal clotting status, hepatic FNA using a 25-gauge needle could be considered for screening cytology.

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Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered. Re-evaluation of a full urinary bladder could be considered if continued signs of inappropriate urination.

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A Spec cPL could be considered.

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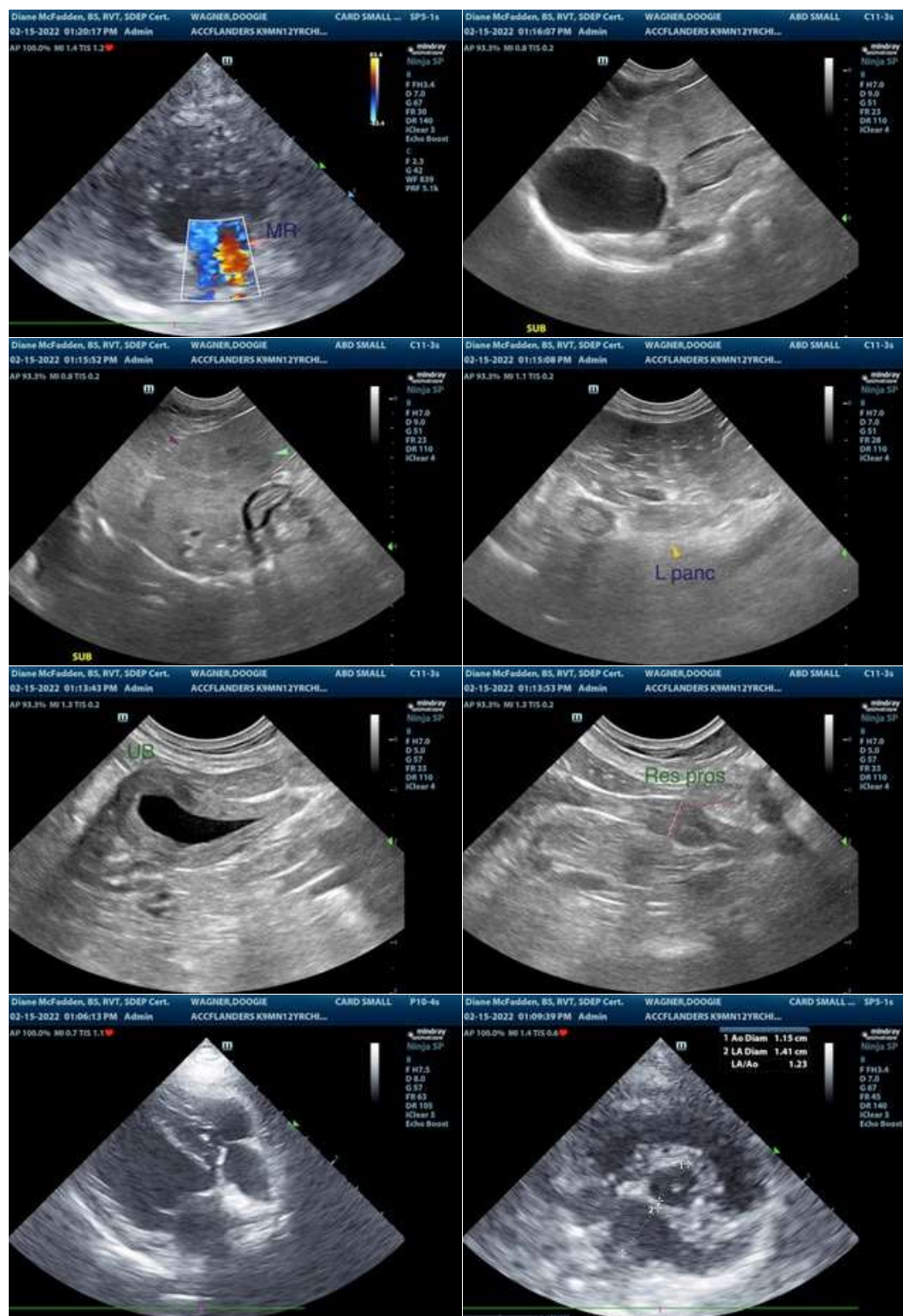
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
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