



## PATIENT

Maggie Forrest

## SPECIES

Canine

## BREED

Golden Retriever

## SEX

Spayed Female

## AGE

14 years

## WEIGHT

107 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Diane McFadden

## HOSPITAL NAME

Tranquility VC

## REFERRING VET

D.r Antonelli

## INVOICE

12173

## DATE

9/3/21

## PRESENTING CLINICAL SIGNS

-episode of collapse that lasted 4 hours. On rimadyl 100mg bid and thyroxine 0.7mg bid

Abnormal PE/Chem/CBC/UA Results: platelets incr 480, USPG 1.012; rods on UA, C&S of urine pending.

## 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			NM	1.32	44.2	75.4	0.48
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	NM	1.96	1.0		3.8	4.7	

## 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 subtle thickening with normal extension in systole, and union in diastole with normal kinesis. Color doppler assessment of the mitral valve revealed minor centralized mitral valve insufficiency. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented overall normal echogenicity without subjective evidence of 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. Suspect minor cardiac tamponade was noted. A nonhomogeneous mass was noted in the area of the right atrioventricular groove, measuring approximately 2.7 cm in diameter. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of overall normal size (1/3 diameter of LV), chordae structure, primarily normal free wall myocardial echogenicity and normal overall thickness. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). Moderate **pericardial** free fluid was noted. The potential for concurrent mild free pleural fluid is possible.



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**Urinary System**

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The urinary bladder presented uniformly thickened urinary bladder wall isoechoic to the adjacent normal urinary bladder wall. The luminal surface was mildly asymmetrical in contour. Urinary bladder wall thickness measured up to 1.0 cm. Mineralization or echogenic foci within the thickened areas of urinary bladder wall was not present. The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra exhibited normal 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.

Multiple, prominent to hypoechoic medial iliac lymph nodes were present adjacent to the iliac trifurcation. An example measured 4.2 cm x 1.4 cm.

A mass involving the left kidney with associated capsule distortion was present. The mass contained a variable mixture of anechoic, hypoechoic, and hyperechoic components with loss of discernable renal architecture. The mass measured approximately 7.6 cm in diameter.

Normal size and margination were present in the right kidney. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The right kidney measured 7.3 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 3.1 cm length x 1.0 cm width at the caudal pole. The right adrenal gland was not definitively visualized.

**IMAGING PERFORMED BY**

Diane McFadden

**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.

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**Liver/ Gallbladder**

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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. The gallbladder wall was thickened in appearance consisting of an echogenic double rim corresponding to the inner and outer portions of the wall. This is consistent with gallbladder wall edema. Possible causes may include acute inflammation, edema and anaphylaxis. Mild inspissated echogenic luminal debris was present in the gallbladder.

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**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.



<b>PATIENT</b>	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.
Maggie Forrest	
<b>SPECIES</b>	Normal visible colon wall layers were present with apparent formed feces in lumen.
Canine	<b>Pancreas</b>
<b>BREED</b>	The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.
Golden Retriever	<b>Free Abdomen</b>
<b>SEX</b>	Multiple, intraabdominal lymph nodes were present. The lymph nodes exhibited symmetrical to rounded margination with abnormal width: length ratio (>0.5). The enlarged lymph nodes were bordered by echogenic to reactive mesentery. The mesenteric root lymph nodes measured 3.7 cm x 3.2 cm.
Spayed Female	
<b>AGE</b>	Mild ascites was noted.
14 years	
<b>WEIGHT</b>	<b>ULTRASONOGRAPHIC FINDINGS</b>
107 lbs.	<b>Primary Findings</b>
<b>INTERPRETED BY</b>	<ul style="list-style-type: none"> <li>• Mass in the area of the right atrioventricular groove</li> <li>• Pericardial effusion</li> <li>• Left kidney mass</li> <li>• Multifocal intraabdominal and medial iliac lymphadenopathy</li> <li>• Gallbladder wall edema with mild inspissated luminal debris</li> <li>• Ascites</li> </ul>
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	
<b>IMAGING PERFORMED BY</b>	<b>INTERPRETATION OF THE FINDINGS &amp; FURTHER RECOMMENDATIONS</b>
Diane McFadden	The sonographic findings in this case are consistent with multicentric neoplasia involving the heart, left kidney, multifocal intraabdominal, and likely medial iliac lymph nodes. Potential involvement of the urinary bladder is possible yet chronic cystitis is suspected.
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<b>REFERRING VET</b>	The ascites in this case is suspected to be secondary to cardiac tamponade owing to pericardial effusion. However, peritoneal free fluid owing to lymphatic obstruction is also possible. Multicentric lymphoma, sarcoma, or other neoplasia is possible.
D.r Antonelli	
<b>INVOICE</b>	Ultrasound-guided FNA of the left kidney, as well as therapeutic pericardiocentesis, may be considered with possible oncology consultation and immediate chemotherapeutic intervention. However, unfortunately, an unfavorable long-term prognosis is indicated.
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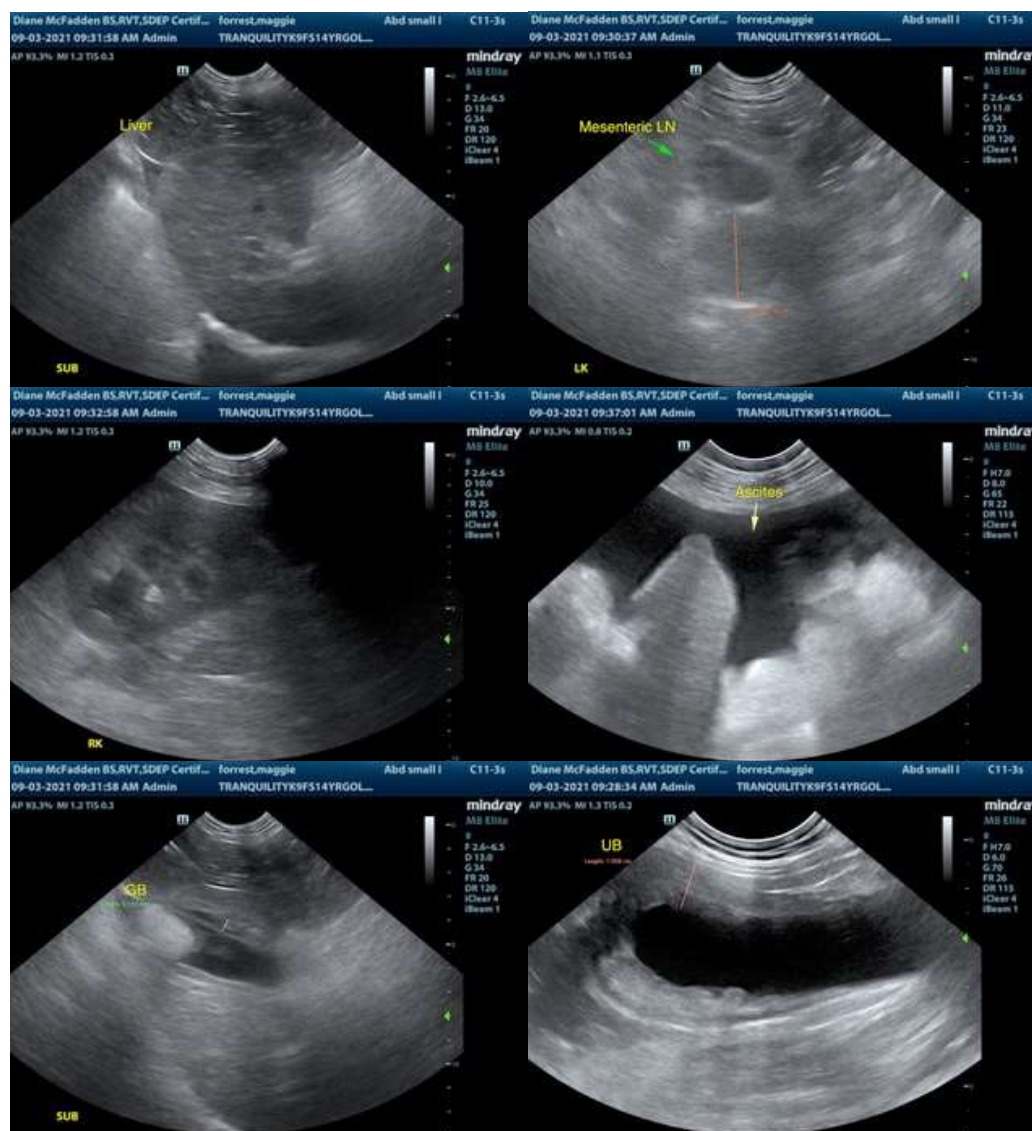
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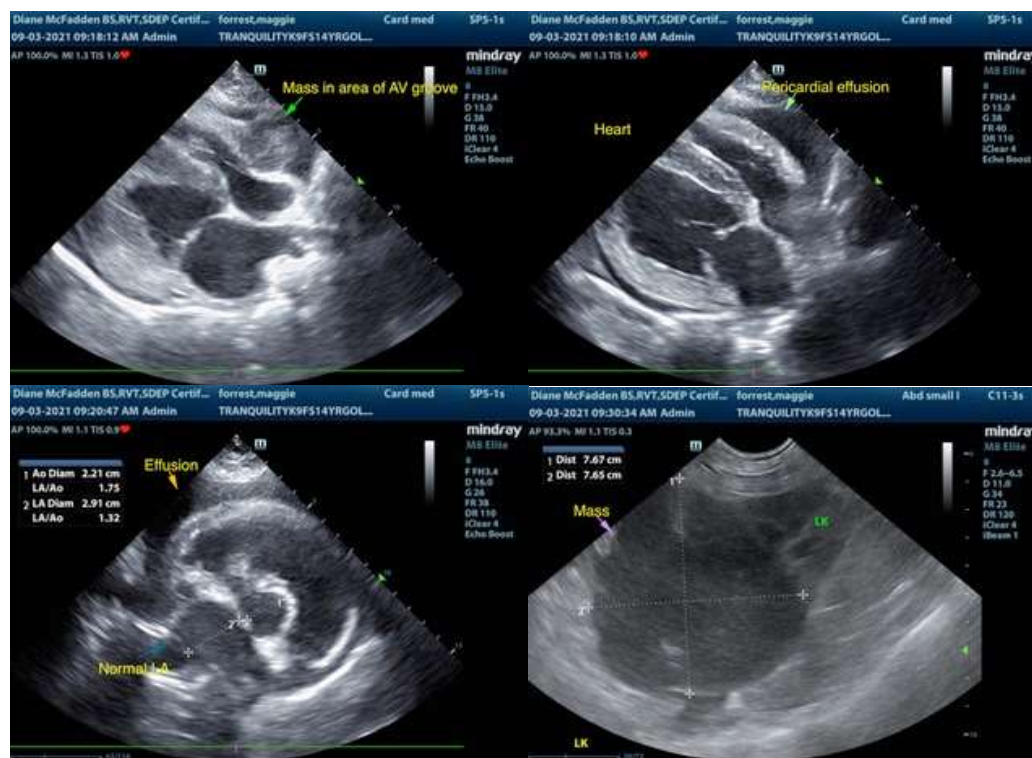
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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