

**PATIENT**

Margo Brigman

**SPECIES**

Canine

**BREED**

Labrador x

**SEX**

Spayed Female

**AGE**

11 Years

**WEIGHT**

78 lbs

**INTERPRETED BY**

Eric Lindquist, DMV,  
DABVP (CFM), Cert.  
IVUSS

**IMAGING PERFORMED BY**

Ginny Dodd, DVM, D,  
ABVP-CFP

**HOSPITAL NAME**

Monroe Road Animal  
Hospital

**REFERRING VET**

Dr. Marjorie Widay

**INVOICE**

74269

**DATE**

4/7/26

**PRESENTING CLINICAL SIGNS**

Seen at CARE ER (no records sent and when called ER vet not there)- Owner said the ER vet performed an ultrasound and said Mango had a liver tumor and hemorrhagic pleural effusion . Unsure if they performed a pericardiocentesis or thoracocentesis. Owner and vet want to know if it is metastatic disease

Abnormal PE/Chem/CBC/UA Results: PE: mm pink, CRT < 2 sec; echomotic hemoarrhage on ventral cranial abdominal skin and sensitive when palpated. Occasional coughing. Sedation with Butorphanol 6 mg IV. Wellness workup 3/6/26 CBC- WNL CHEM- T bili 0.4, unconj bili 0.3 UA- 1.036- free catch; pH 6.0, +3 port, rest- normal or neg UPC- 2.4. u creat 160.4; u protein 379.4 UA-

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN**

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
<b>PATIENT</b>	--	--	1.25	1.42	43	74	0.1
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (lbs)	LAD LA MAX 4 Chamber	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6				
<b>PATIENT</b>	80	--	1.6	78	3.58	4.25	--

**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 auricle** itself appeared unremarkable. However, pleural effusion outside of the right auricle and right atrium was fairly extensive. 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). Some heterogeneous pleural effusion and pleural nodules noted, non-cardiogenic. Some heterogeneous changes also noted adjacent to the heart, yet the tissue within the heart itself appeared unremarkable.



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**Urinary System**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Left kidney measured 6.0 cm.

**Adrenal Glands**

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. Left measured 2.08 cm x 0.74 cm at the caudal pole and 0.62 cm at the cranial pole. Right measured 2.53 cm x 0.82 cm at the cranial pole and 0.72 cm at the caudal pole.

**Spleen**

The **spleen** presented heterogeneous and hypoechoic non-disruptive parenchymal changes and subtle nodules. One particular nodule, however, was mildly disruptive in architecture. The largest nodule measured 1.7 cm at the splenic hilus, impinging upon and deviating the splenic capsule.

**Liver**

The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Multifocal hypoechoic nodular changes noted, similar to that of the spleen, measuring up to 2.2 cm. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal.

**Gastrointestinal**

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

**Pancreas**

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

**ULTRASONOGRAPHIC FINDINGS**

- Non-cardiogenic pleural effusion with nodules.
- Normal heart.



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- Splenic and hepatic nodules.

Margo Brigman

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**SPECIES**

Pleurocentesis and cytospin warranted to assess for exfoliating neoplasia. Chest CT would be ideal after pleurocentesis and drainage. 25-gauge FNA of the splenic and hepatic nodules warranted. Strong concern for metastatic neoplasia, which may or may not be related to the prior hepatic history or current nodules on the spleen and liver.

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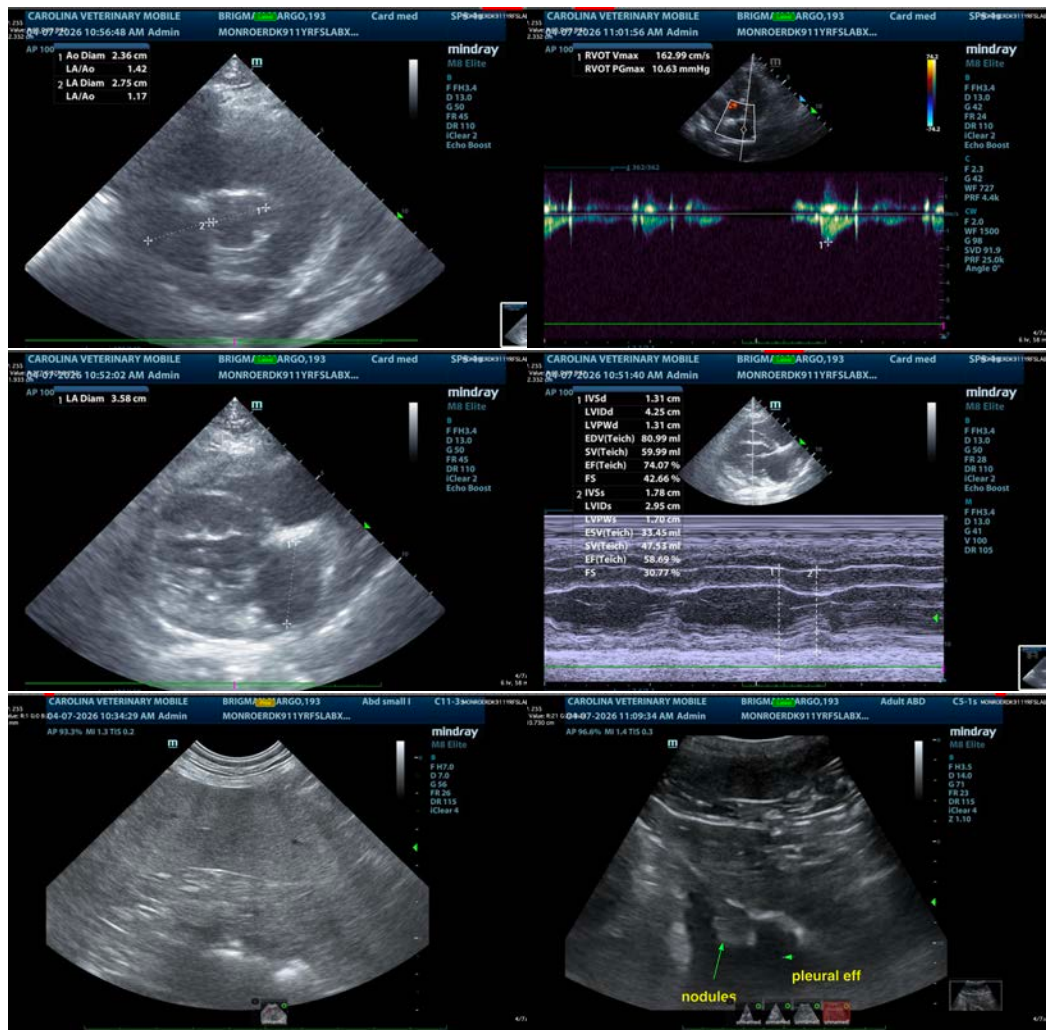
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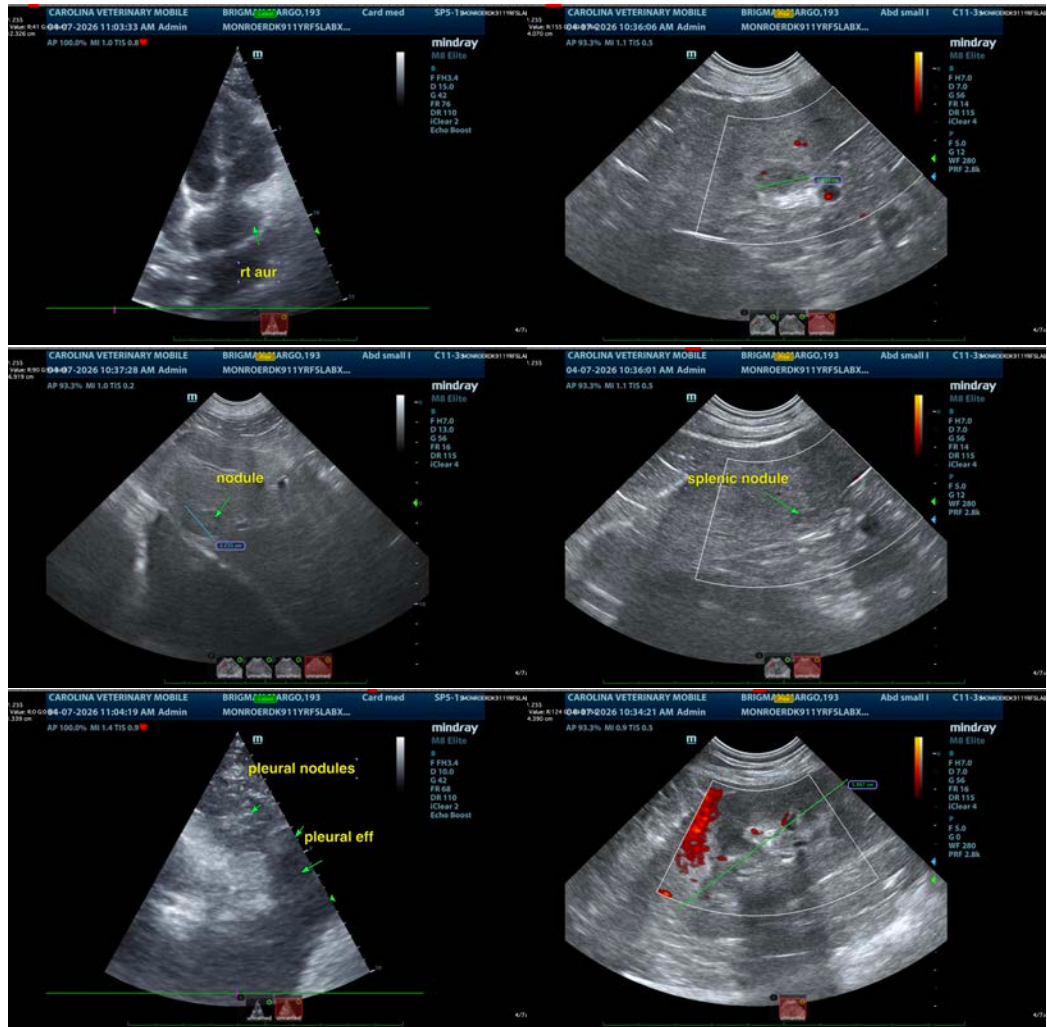
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist, DMV, DABVP(CFM), Cert. IVUSS,**  
 CEO, Owner, Founder -- SonoPath.com  
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