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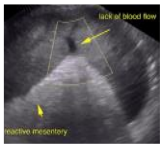
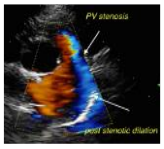
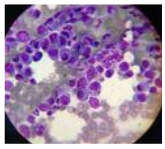
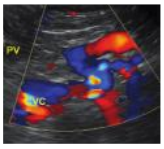





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Cesar Flores

SPECIES

Canine

BREED

Boxer Mix

SEX

MN

AGE

10 years

WEIGHT

75 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Marsh Hospital for Animals

REFERRING VET

Dr. Milwicki

INVOICE

13731

DATE

4/27/22

PRESENTING CLINICAL SIGNS

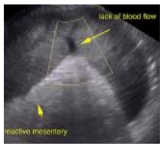
Patient presents for elevated respiratory rate, pink mm, abdominally retracting, and pleural effusion. Drained 265 mls of chylous-appearing effusion from chest.
Abnormal PE/Chem/CBC/UA Results: CBC/Chem: WNL.

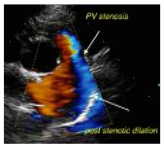
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

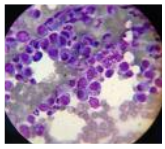
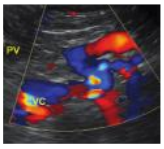
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT				1.47	27	53	0.25
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**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				
PATIENT	101	1.2	0.75		4.0	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. Minor MR was present on doppler. 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 mildly subnormal yet subjectively adequate as referenced 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 overt evidence of masses associated with the right atrium and auricle was noted. No evidence of cardiac tamponade was present. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. Minor TR was present on doppler. 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). Moderate volume pleura effusion was present without evidence of concurrent pericardial effusion. A moderately sized, subjective homogeneous mass was present in the area of the heart base adjacent to the left atrium and auricle, as well as subjectively within the immediate pericardial thorax. The mass measured approximately 6.3 cm x 3.2 cm.





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Urinary System

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.

The area of the aortic trifurcation was free of pathology.

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 7.1 cm in length. The right kidney measured 7.5 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.72 cm width at the caudal pole and 0.61 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 0.89 cm width at the caudal pole and 0.86 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 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. No evidence of hepatic vascular congestion was noted. The visualized cranial abdominal caudal vena cava exhibited normal volume without evidence of dilation. The gallbladder was non-distended in size with minor gallbladder debris. The gallbladder was otherwise normal. 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 contained echogenic, nonshadowing ingesta, which although nonspecific, may indicate recent meal ingestion or potential metabolic gastric hypomotility.

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.

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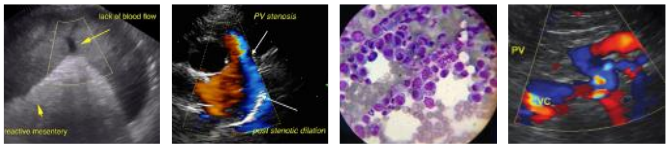

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Pancreas

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.

Free Abdomen

No omental masses, lymphadenopathy or evidence of ascites were present.

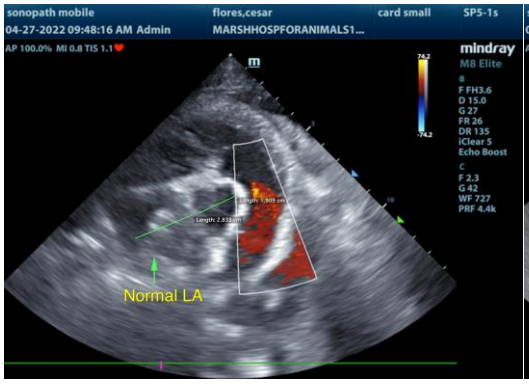
ULTRASONOGRAPHIC FINDINGS

- Mass in area of heart base and pericardial thorax
- Noncardiogenic moderate volume pleural effusion
- Overtly normal abdomen - no evidence of concurrent peritoneal effusion or intra-abdominal neoplastic criteria

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The primary finding of the mass in the area of the heart base and pericardial thorax with concurrent pleural effusion is consistent with neoplastic to potential multicentric neoplastic criteria. The mass may represent a primary heart base mass extending into the pericardial thorax or thoracic mass with impingement or possible invasion into the heart base.

Correlation with cytospin cytology of the thoracic effusion with potential for oncology consultation could be considered. Thoracic CT for further assessment could also be considered. Given this presentation with reported chylous-appearing thoracic effusion potentially secondary to lymphatic obstruction or non-visualized thoracic duct pathology, a very guarded to likely unfavorable prognosis is unfortunately indicated.



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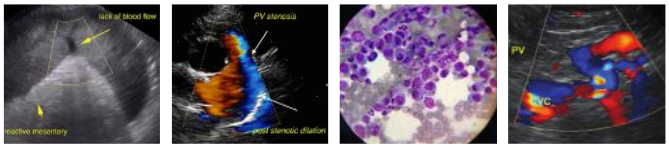

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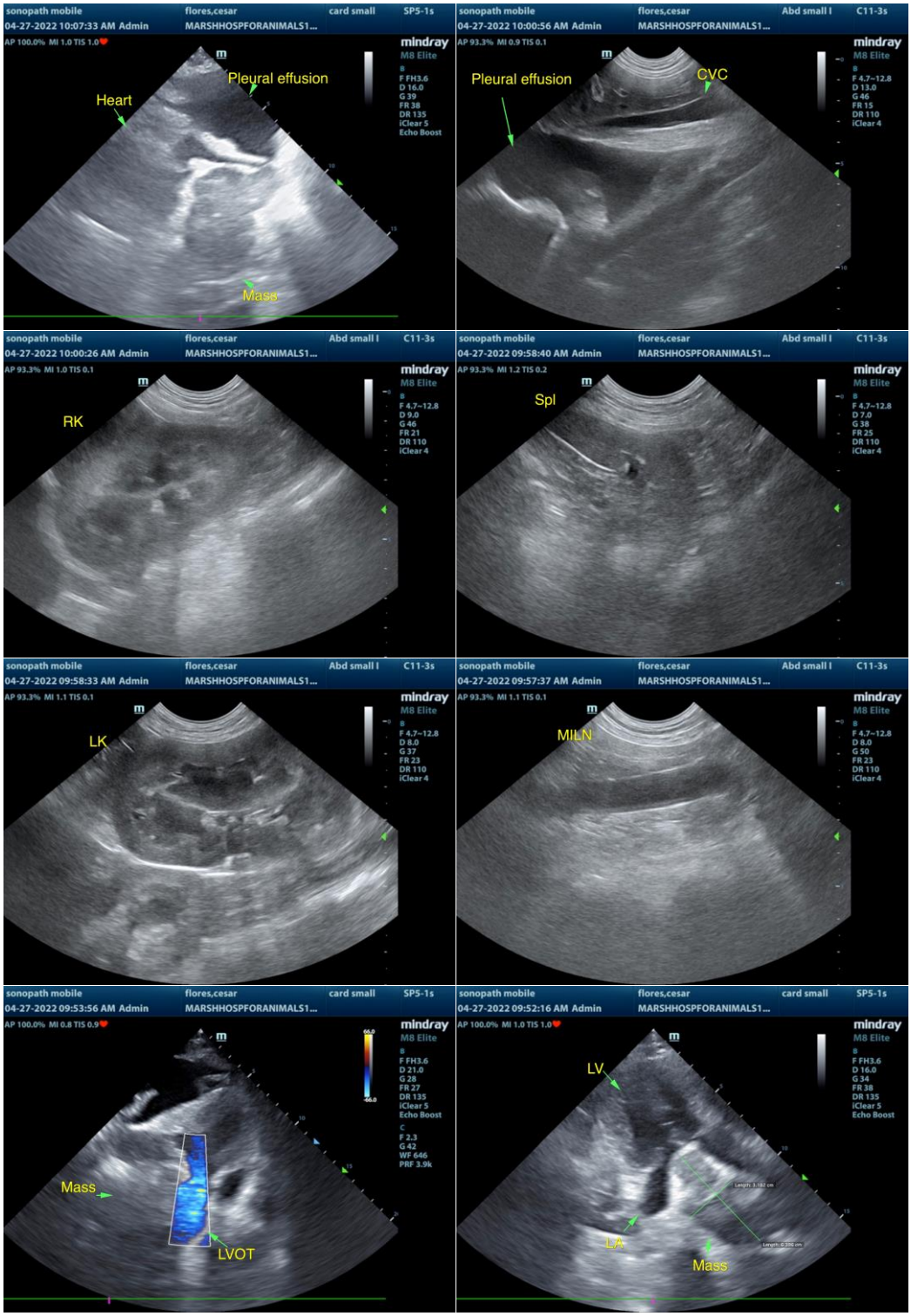

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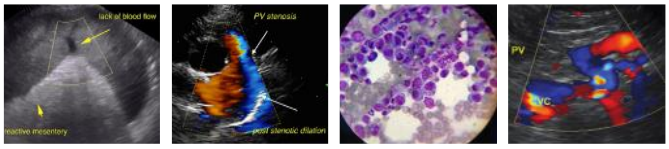

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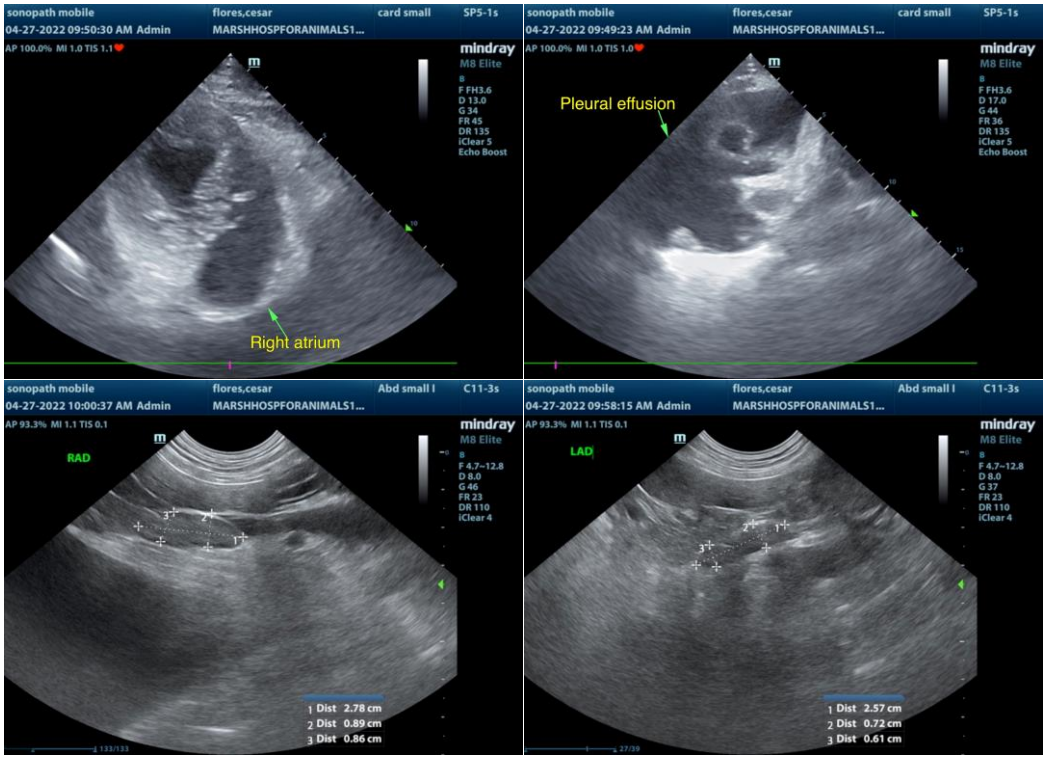

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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