SonoPath

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™

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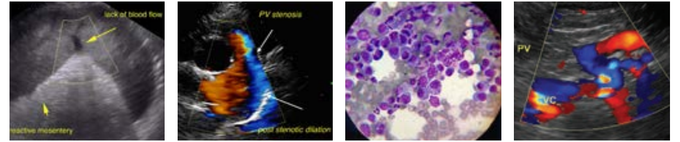


PATIENT

Missy Craig

SPECIES

Canine

BREED

Golden Retriever

SEX

Spayed Female

AGE

10 Years 9 Months

WEIGHT

57.4 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Amanda Crook – SDEP Certified Clinical Sonographer

HOSPITAL NAME

Rivers Edge PMC

REFERRING VET

Dr. Wineinger

INVOICE

44633

DATE

8/14/23

PRESENTING CLINICAL SIGNS

History from 7/6/23: History of seizures which are well controlled on Keppra, and occasional atopy flares (controlled on apoquel). Presented for routine annual - pendulous abdomen noted. Not PU/PD. Appetite down in last few weeks but many changes in household. Current medications: Keppra 750mg q8hr Apoquel 16mg 1/2-1 PRN

Abnormal PE/Chem/CBC/UA Results: See attached - Mild increase in reticulocytes with normal HCT 48.3%. Mild hypoproteinemia (5.1g/dL) and hypoglobulinemia (2.3g/dl), low-normal albumin (2.8g/dL).

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	Up to 1.6	28-40	40-100	<0.6
PATIENT			1.3	1.3	54	27	0.28

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	NM	NM		3.1	3.1	

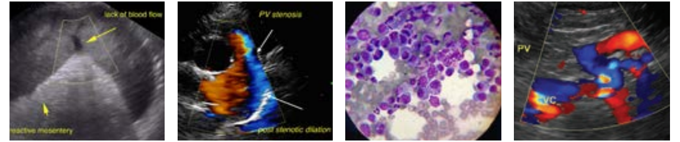
Cardiac Presentation

Moderate volume pericardial effusion wit diastolic collapse of the left atrial wall noted, consistent with cardiac tamponade. Mildly hypoechoic to non-homogeneous well demarcated lesion in the area of the right atrium/auricle, measuring approximately 3.3 cm in diameter. LV function is adequate. The left atrium was normal in diameter. Possible mild volume contracted LV with mild pseudohypertrophy. Pulmonic and aortic valves were overtly normal in appearance. Mild MR and TR present on doppler. Suspect concurrent mild to possibly moderate volume pleural effusion.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of – cm 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 were noted.

Normal size and margination was 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



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loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 6.5 cm. The right kidney measured 6.7 cm.

Adrenal Glands

The bilateral adrenal glands were normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 2.7 cm length x 0.66 cm at the caudal pole. The right adrenal gland measured 2.2 cm length x 0.54 cm at the caudal pole.

Spleen

The spleen was indistinctly visualized with possible cranial splenic displacement adjacent to or possibly effacing the ventral aspect of the left liver. Subjective non-homogeneous splenic parenchyma.

Liver

The liver presented enlarged in size with symmetrical yet swollen contour. The parenchyma exhibited conserved uniform parenchyma with normal echogenicity isoechoic to the spleen and falciform fat. The hepatic vasculature was dilated in appearance, most notable at the level of the hepatic vein / caudal vena cava junction, without evidence of thrombosis. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. No overt gallbladder wall edema. 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

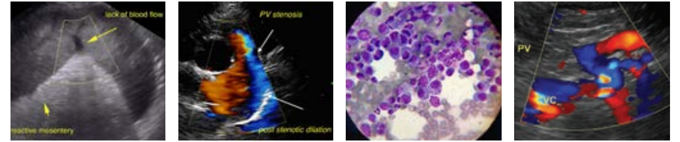
The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

Free Abdomen

Severe volume, primarily anechoic ascites with generalized uniform hyperechoic omentum. No visualized or significant omental lymphadenopathy or omental masses.

ULTRASONOGRAPHIC FINDINGS

- Mass in the area of the right atrium/auricle
- Moderate volume pericardial effusion and secondary cardiac tamponade
- Congestive hepatomegaly
- Mild chronic renal changes
- Indistinctly visualized, possibly cranial displaced non-homogeneous spleen



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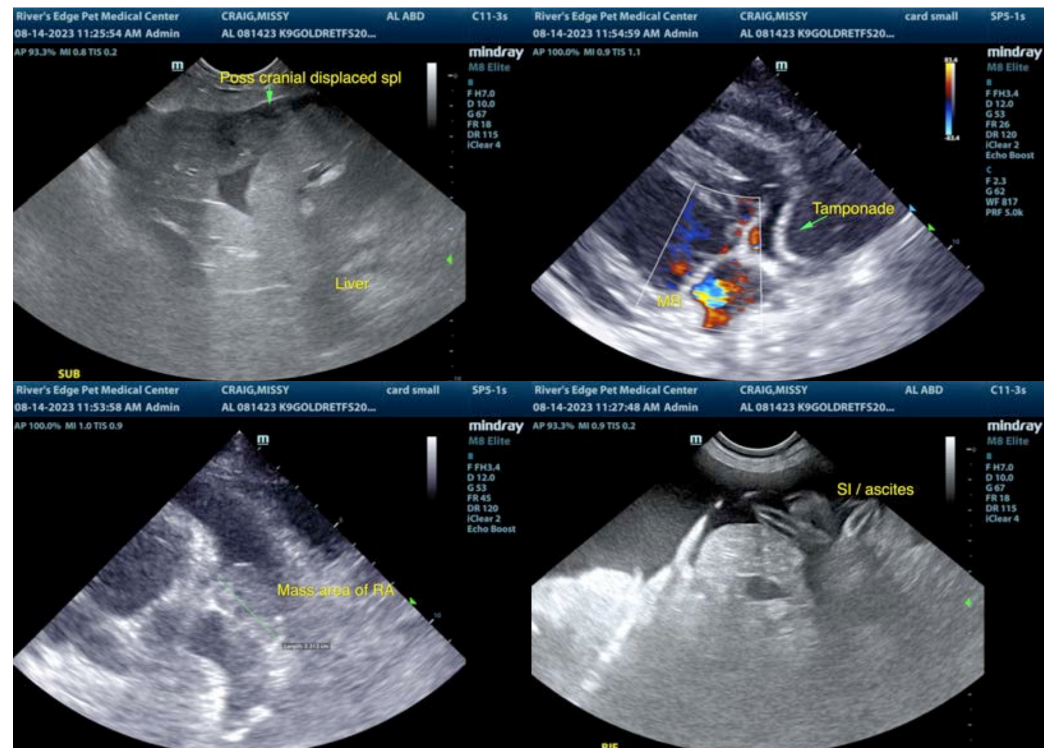
- Severe volume ascites

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the clinical signs is cardiac tamponade due to pericardial effusion secondary to cardiac neoplasia associated with the right atrium/auricle. Most likely tumor type given this location is hemangiosarcoma with other tumor types possible yet less likely. Emergency pericardiocentesis is indicated with cytology of pericardial fluid recommended. Fluid resuscitation (given potential for mild LV contraction) may be considered. Prognosis is generally poor with probable cardiac hemangiosarcoma.

The possibility of primary or concurrent splenic pathology as a contributing factor or cardiac metastatic disease with a possibility of ill-defined non-obvious intraabdominal neoplasia cannot be excluded. Correlation with abdominocentesis for ascites analysis and cytology is warranted. Oncology consult could be considered, yet an unfavorable long-term prognosis is likely.



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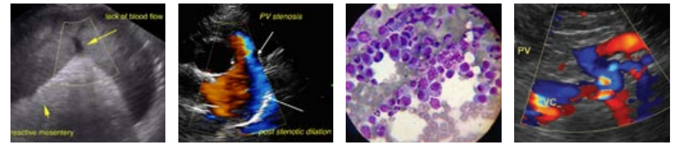

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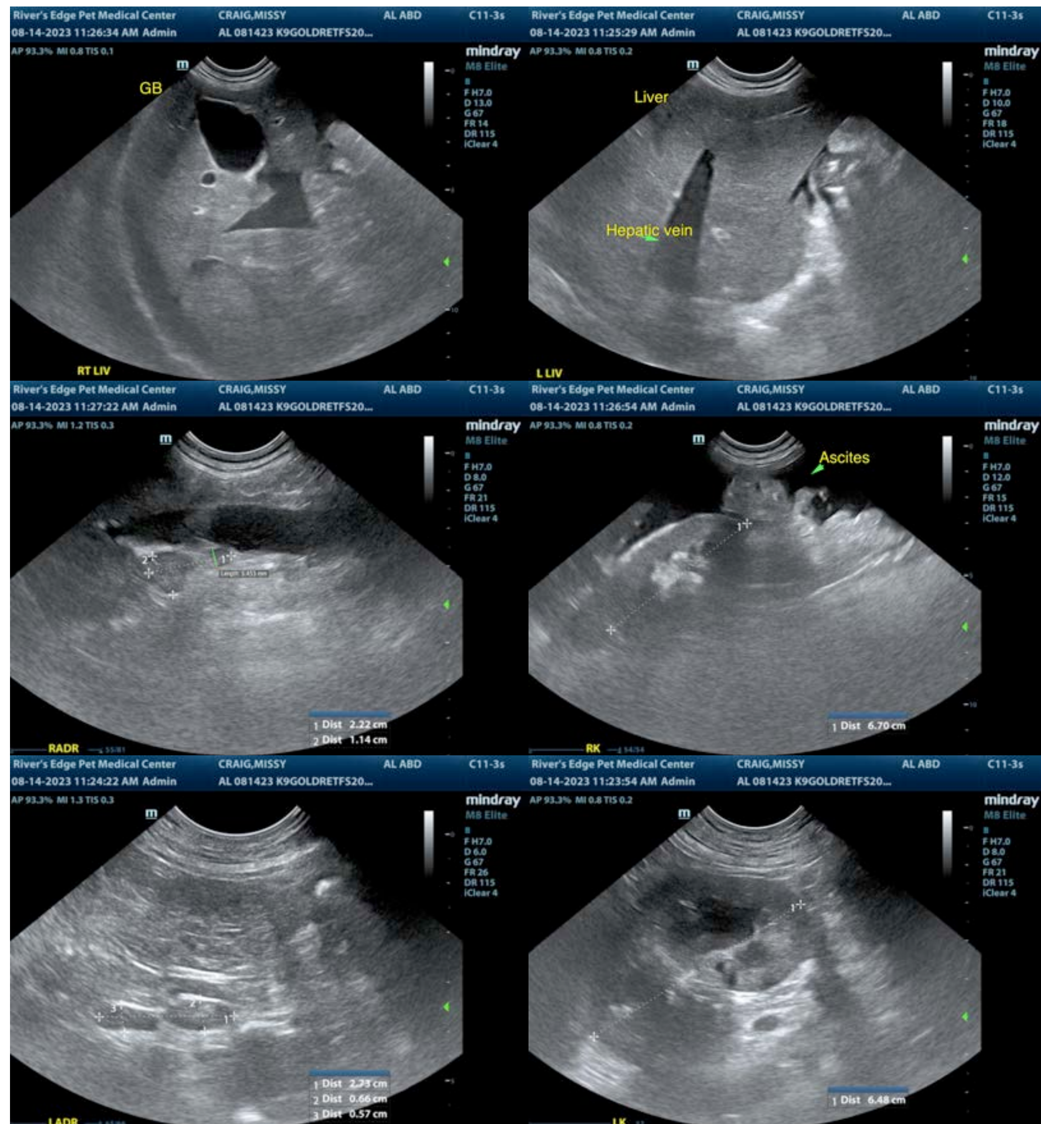

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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