


PATIENT

Thor Degroat

SPECIES

Canine

BREED

Boxer

SEX

Neutered male

AGE

6 years 5 months

WEIGHT

60.6 pounds

INTERPRETED BY

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

IMAGING PERFORMED BY
 Shari Reffi CVT

HOSPITAL NAME

ACC Flanders

REFERRING VET

Dr. Hallihan

INVOICE

10145ag

DATE

03/08/2022

PRESENTING CLINICAL SIGNS

History: Chronic diarrhea, decreased appetite, tachycardia, wheezing, hx of HM (not heard today).

Abnormal PE/Chem/CBC/UA Results: BUN 39, ALT 745, ALKP 244, Amyl 1004, Lip 2167, Na 140, Cl 106, MCHC 38.2, Retic-hgb 21.2, Neu 13.54, Eoso .05, PLT 112

ULTRASONOGRAPHIC EXAMINATION OF THE HEART AND ABDOMEN

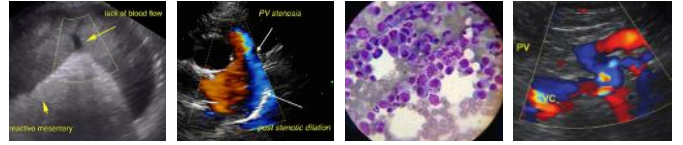
| CANINE CARDIAC PARAMETERS | MR VMAX (m/s) | TR VMAX (m/s) | LA/AO (Boon method) | LA/AO (Heart Base; Swe) | FS (%) | EF (%) | EPSS (cm) |
|---------------------------|---------------|---------------|---------------------|-------------------------|---------------------------------|--|--|
| NORMAL PARAMETER | 4.5-5.5 | <2.7 | 1.3 | <1.6 | 28-40 | 40-100 | <0.6 |
| PATIENT | NM | NM | NM | 1.47 | 35 | 67.8 | 0.35 |
| 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 | 1.3 | 1.0 | | 3.8 | 4.0 | NM |

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. Tricuspid valvular assessment demonstrated adequate linear morphology and kinesis. Moderate volume pericardial free fluid exhibiting cellular component was present. Overt evidence of concurrent free pleural fluid was not noted. A moderately sized to expansive nonhomogeneous mass in the area of the RA/auricle measuring 4.5-5 cm in diameter was present. Additional cardiac, pericardial or cranial mediastinal masses was not noted.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3 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.



| | |
|--|--|
| PATIENT | 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 7.2 cm in length. The right kidney measured 6.8 cm in length. |
| Thor Degroat | |
| SPECIES | |
| Canine | The area of the residual prostate was free of pathology. The area of the aortic trifurcation was free of pathology. |
| BREED | Adrenal Glands |
| Boxer | The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.65 cm width at the caudal pole and 0.62 cm width at the cranial pole. The right adrenal gland was not definitively visualized. |
| SEX | Spleen |
| Neutered male | 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. No splenic nodules or masses were noted. |
| AGE | Liver |
| 6 years 5 months | 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. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal. |
| WEIGHT | Gastrointestinal |
| 60.6 pounds | The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained moderate primarily non-shadowing ingesta/chyme without signs of obstruction or foreign material. |
| INTERPRETED BY | Small Intestine |
| R. McKenzie Daniel, DVM, DABVP (Canine and Feline) | 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. |
| IMAGING PERFORMED BY | Colon |
| Shari Reffi CVT | Normal visible colon wall layers were present with apparent formed feces in lumen. |
| HOSPITAL NAME | Pancreas |
| ACC Flanders | The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia. |
| REFERRING VET | Free Abdomen |
| Dr. Hallihan | No overt lymphadenopathy or peritoneal effusion was present. |
| INVOICE | ULTRASONOGRAPHIC FINDINGS |
| 10145ag | Cardiac findings: |
| DATE | <ul style="list-style-type: none"> • RA/auricular mass. • Pericardial effusion. |
| 03/08/2022 | |



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Abdominal findings:

- Hepatopathy-subjectively benign.
- Overtly normal gastrointestinal tract with mild retained gastric ingesta/chyme.
- Heterogeneous pancreas-nonspecific, potential for low grade to chronic pancreatitis possible.

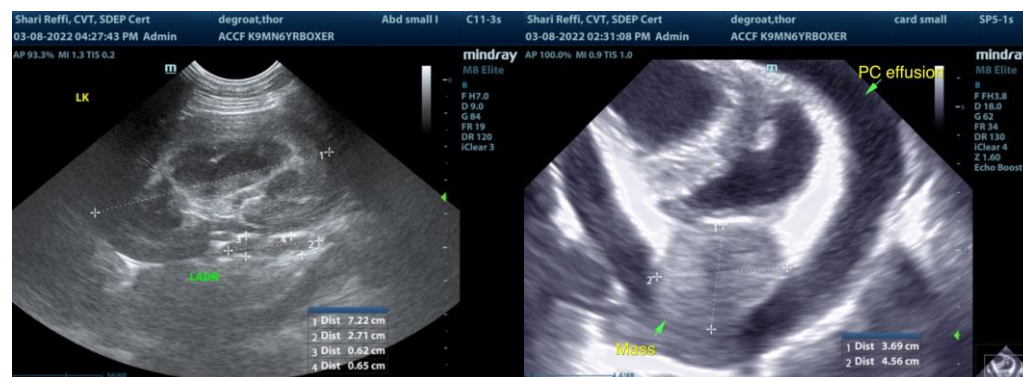
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the location of the RA/auricular mass, hemangiosarcoma is considered a primary differential diagnosis although alternate neoplastic etiologies are possible. Correlation with pericardiocentesis for effusion analysis and cytospin cytology is recommended.

Overall, the liver was nonspecific yet consistent with benign hepatopathy. Considerations may include nonspecific hepatitis given the primarily elevated ALT with potential for vacuolar hepatopathy and/or nonclinical cholestasis given the ALP elevation. Hepatic neoplasia is considered a less likely differential diagnosis.

Overall, no evidence of primary intra-abdominal neoplasia as a potential cause of cardiac metastasis was observed. Structurally insignificant chronic gastrointestinal disease and/or low grade pancreatitis is possible as potential causes of the chronic diarrhea. Typically, further assessment may include a GI panel with PLI/TLI/Cobalamin/Folate, fresh fecal analysis to rule out parasitic ova and giardia +/- a resting cortisol level. However, given the primary concern for the RA/auricular tumor, referral for further assessment +/- oncology/surgical consult could be considered.

A likely unfavorable long-term prognosis is unfortunately indicated.





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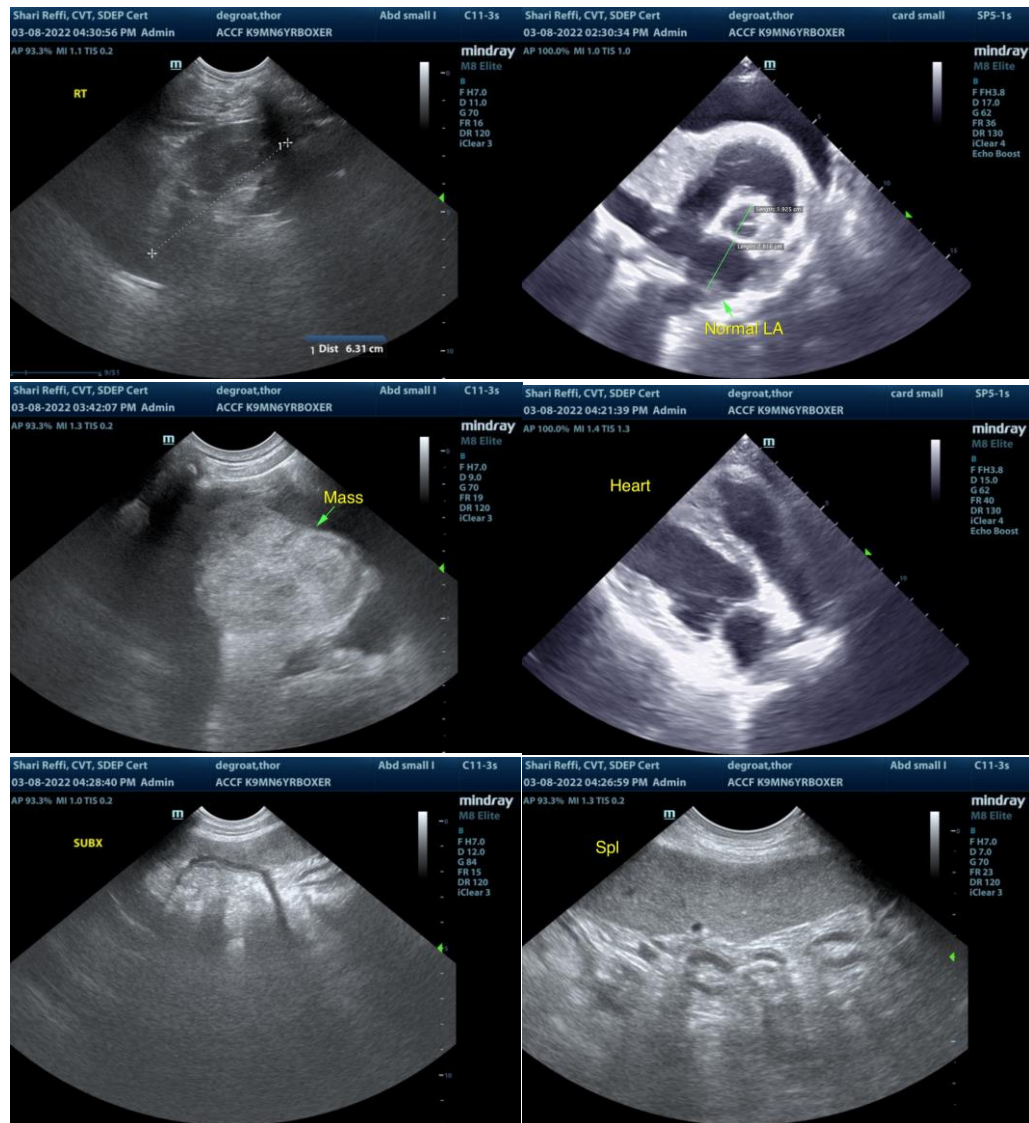
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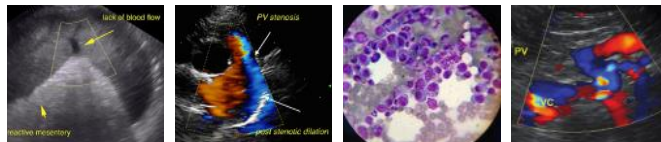
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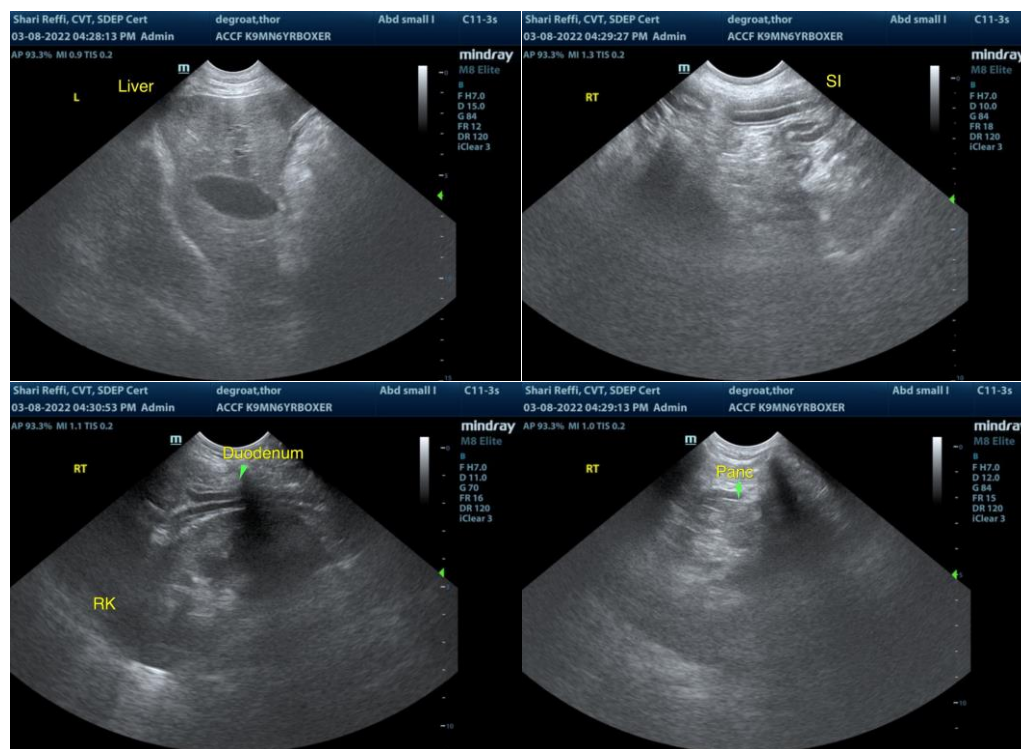
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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