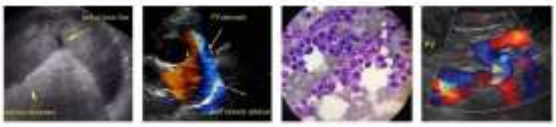



**PATIENT**

Shelby Huggett

**SPECIES**

Canine

**BREED**

German Shep X

**SEX**

FS

**AGE**

9 years

**WEIGHT**

25.4 kg

**INTERPRETED BY**

R. McKenzie Daniel, DVM, DABVP

**IMAGING PERFORMED BY**

Kelly Reshny, RVT

**HOSPITAL NAME**

Oxford County VC

**REFERRING VET**

Dr. Halfon

**INVOICE**

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**DATE**

11/3/21

## PRESENTING CLINICAL SIGNS

palpable abdominal mass also noted on radiograph from emergency hospital episodes of panting/laboured rapid breathing and tachycardia - occured soon after veterinary visit and vaccinations
Abnormal PE/Chem/CBC/UA Results: slightly elevated WBC, rest WNL rads: Concern regarding cranial lung lobe, emerg clinic noted a mild amount of free fluid abdominal mass - suspected splenic Rads

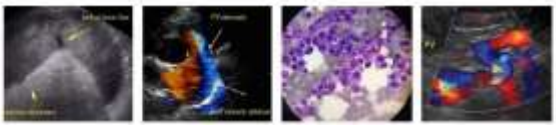
attached

## 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 | 1.0 | 46.1 | 81 | 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 | 1.6 | 0.8 | | 3.6 | 3.1 | |

### *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 atrium** and auricle revealed normal size, structure and content. 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). No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.





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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 was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 5.5 cm in length. The right kidney measured 6.4 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 0.53 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.56 cm width at the caudal pole.

## *Spleen*

A mass involving the spleen with secondary asymmetrical capsule expansion and disruption was present and measured approximately 8.5 cm diameter. The parenchyma of the mass was heterogeneous to mixed echogenic with areas of cavitation. The non-affected spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Regional omental inflammation was present around the mass. Likely small pockets of minor perisplenic free fluid were noted. No overt evidence of splenic mass rupture and/or significant hemoabdomen was noted.

## *Liver/ Gallbladder*

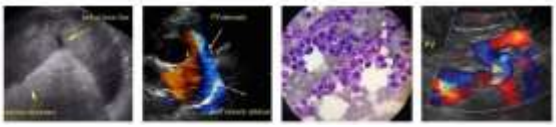
The liver exhibited potential for mild generalized enlargement. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with primarily anechoic luminal content. 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.





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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 overt lymphadenopathy or peritoneal effusion was present.

## ULTRASONOGRAPHIC FINDINGS

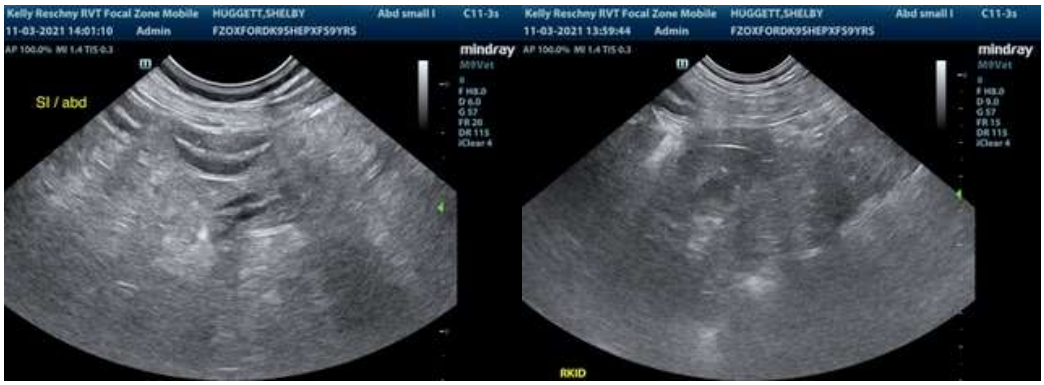
### *Primary Findings*

- Overtly normal cardiac structure and function
- Cavitated splenic mass
- Minor vacuolar hepatopathy pattern
- Mild age-related kidneys

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This study confirms the presence of a solitary, mildly expansive to cavitated splenic mass. Although histopathology is required for definitive diagnosis, the splenic mass is most suggestive of neoplasia such as sarcoma or other. Benign pathologies are possible, yet considered less likely. Overt evidence of Intraabdominal or cardiac metastasis was not definitively evident. However, given the primary concern for malignant splenic neoplasia, I.e., hemangiosarcoma, potential for possible omental seeding and / or non-visualized micrometastasis cannot be definitively excluded.

Given that no evidence of thoracic metastasis on recent three-view chest radiographs, laparotomy with expectation towards splenectomy along with gross inspection of the perisplenic omentum and liver is warranted. Overall, a guarded long-term prognosis is indicated.



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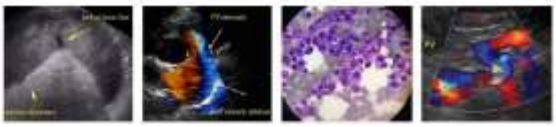

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289-808-2608 info@thefocalzone.com

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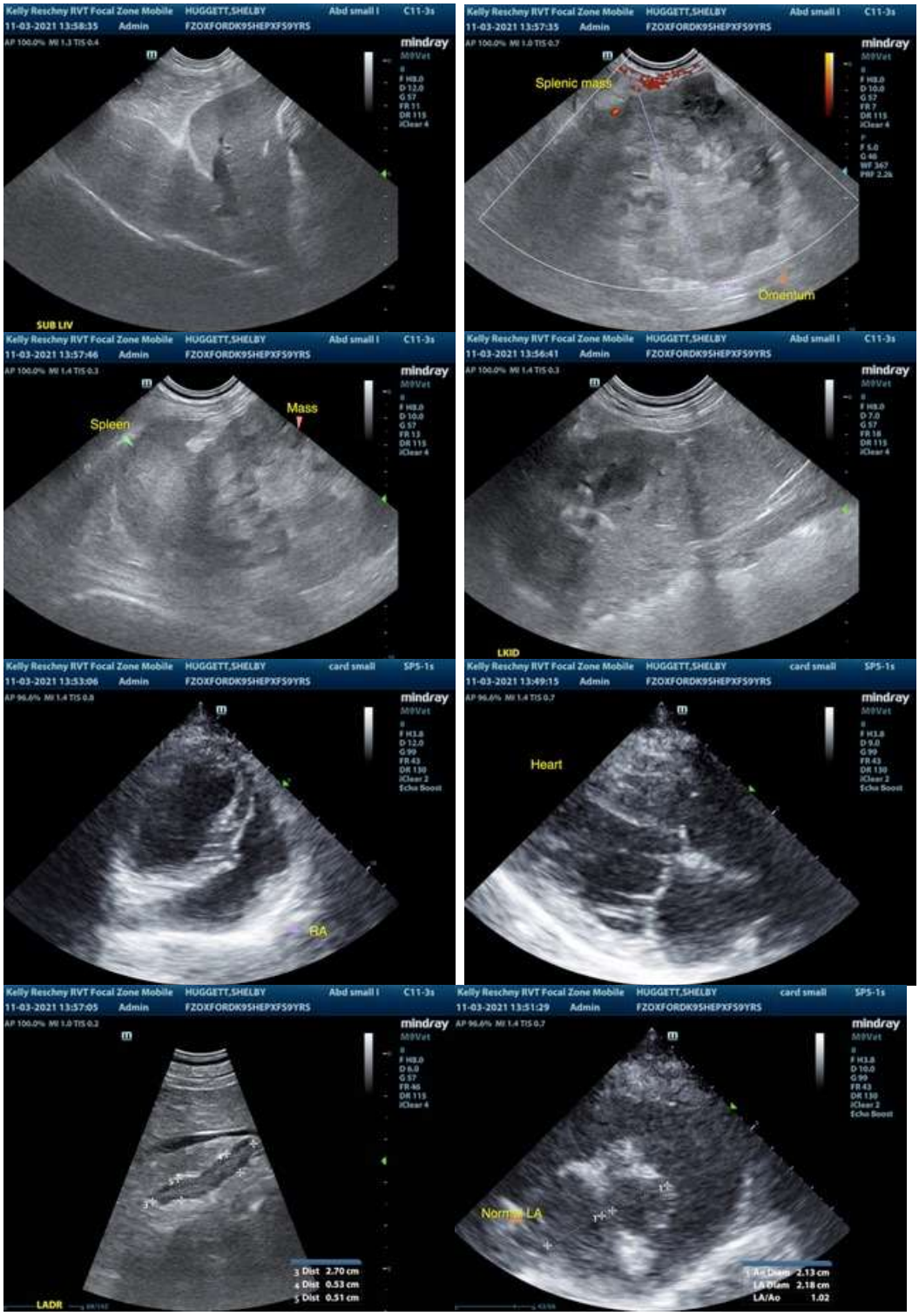

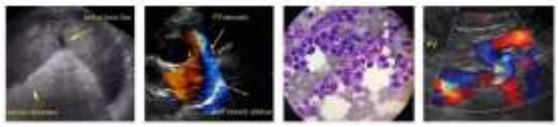



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**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

**R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)**
**info@SonoPath.com**