


**PATIENT PRESENTING CLINICAL SIGNS**

Shelby Costa was at emerg clinic for unsteady walking lethargy, emerg clinic did fast US scan, saw possible splenic mass and fluid around the heart.

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN**

Canine

**BREED**

Boxer

**SEX**

FS

**AGE**

11 years

**WEIGHT**

60 lbs.

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				1.2	30	60	0.3
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	NM	1.0	0.75		3.9	3.8	

**INTERPRETED BY**

 R. McKenzie Daniel,  
 DVM, DABVP

**IMAGING  
 PERFORMED BY**

Kelly Reschny

**HOSPITAL NAME**

Maples AH

**REFERRING VET**

Dr. Kazienko

**INVOICE**

15782

**DATE**

1/10/22

**Cardiac Presentation**

Moderate volume pericardial effusion with diastolic collapse of the right atrial wall consistent with cardiac tamponade was present. A hypoechoic to nonhomogeneous, well-demarcated lesion associated with the right atrium to possible right atrioventricular groove was present, measuring approximately 3.6 cm in diameter. LV function is adequate to mildly depressed. The left atrium is normal in diameter. The LV exhibited mild volume contraction and subjective borderline pseudohypertrophy. The pulmonic and aortic valves are normal. The mitral valve is normal. No overt MR is noted. Normal TV valve without overt TR is present. Normal measured outflow velocities are present.

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 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 was noted.

No evidence of medial iliac or sublumbar lymphadenopathy/masses.

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 corticomodullary symmetry and definition expected for the age of the patient. No



<b>PATIENT</b>	evidence of pelvic dilation was present. The left kidney measured 6.7 cm in length. The right kidney measured 7.5 cm in length.
Shelby Costa	
<b>SPECIES</b>	<b>Adrenal Glands</b>
Canine	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 1.8 cm length x 0.47 cm width at the caudal pole. The right adrenal gland was indistinctly visualized, subjectively measuring approximately 1.0 cm in the caudal pole. No overt adrenal tumors were noted.
<b>BREED</b>	<b>Spleen</b>
Boxer	The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.
<b>SEX</b>	<b>Liver/ Gallbladder</b>
FS	The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to parenchymal remodeling. Nonhomogeneous mild to moderately sized cavitated mass was present in the area of the left caudal liver, which appeared to directly efface the cranial lateral aspect of the spleen. Regional hyperechoic surrounding mesentery was present. Subjective evidence of mild hepatic vascular congestion was noted. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.
<b>AGE</b>	<b>Gastrointestinal</b>
11 years	The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained mild to moderate, variably echogenic, ingesta exhibiting mild progressive distal acoustic shadowing was noted.
<b>WEIGHT</b>	<b>HOSPITAL NAME</b>
60 lbs.	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.
<b>INTERPRETED BY</b>	Normal visible colon wall layers were present with apparent formed feces in lumen.
R. McKenzie Daniel, DVM, DABVP	<b>Pancreas</b>
<b>IMAGING PERFORMED BY</b>	<b>Free Abdomen</b>
Kelly Reschny	Mild volume peritoneal free fluid was present.
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Shelby Costa

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**ULTRASONOGRAPHIC FINDINGS**

- Well-demarcated, homogeneous mass in area of right atrium / right atrioventricular groove
- Moderate volume pericardial effusion with secondary cardiac tamponade
- Nonhomogeneous cavitated mass in area of left caudal liver / cranial spleen
- Evidence of mild hepatic congestion
- Concurrent mild volume peritoneal effusion - potential hemoabdomen or ascites secondary to cardiac tamponade

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The mass in the area of the caudal left liver and cranial spleen appears to primarily involve and is suspected to originate from the caudal left liver with effacement to the cranial spleen, although the possibility of nonobvious cranial splenic origin cannot be definitively excluded. Regardless, the intraabdominal mass in conjunction with mass in the area of the right atrium and right atrioventricular groove is consistent with multicentric neoplasia with primary suspicion for multicentric sarcoma.

Unfortunately, surgical options are precluded. Empirically, pericardiocentesis with pericardial effusion cytology +/- FNA of the intraabdominal mass and possible oncology consult could be considered. However, a poor prognosis is unfortunately indicated.

**INTERPRETED BY**

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DVM, DABVP

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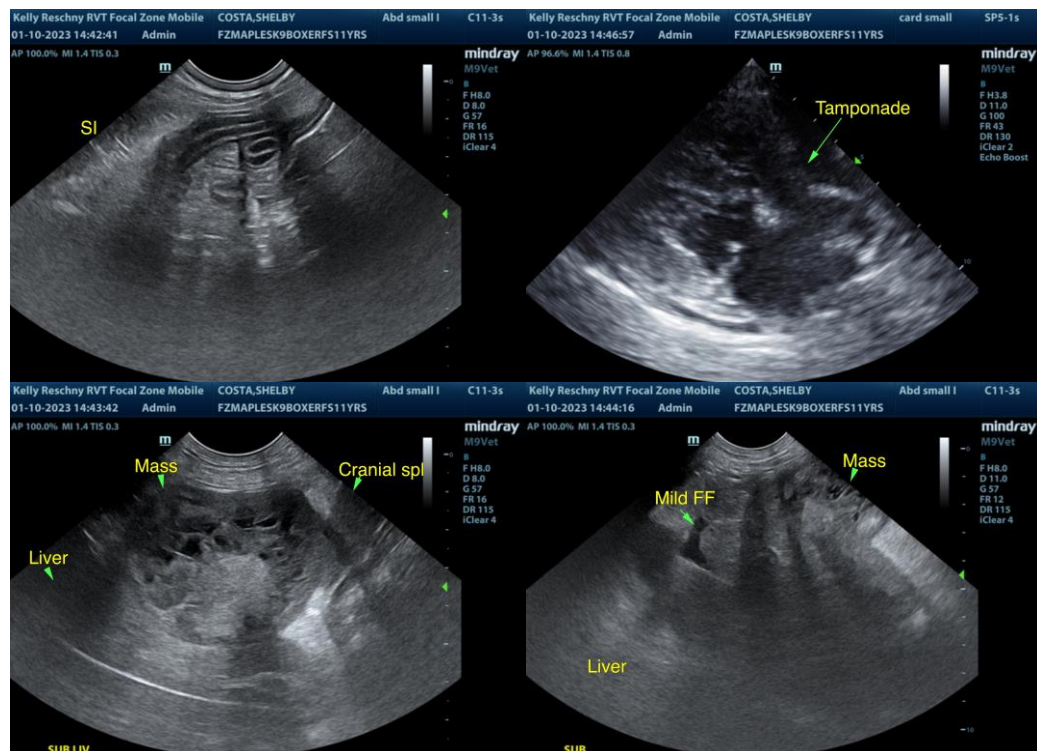
Dr. Kazienko

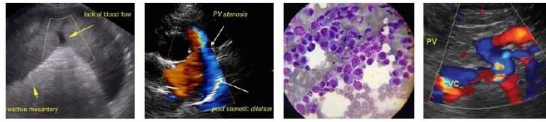
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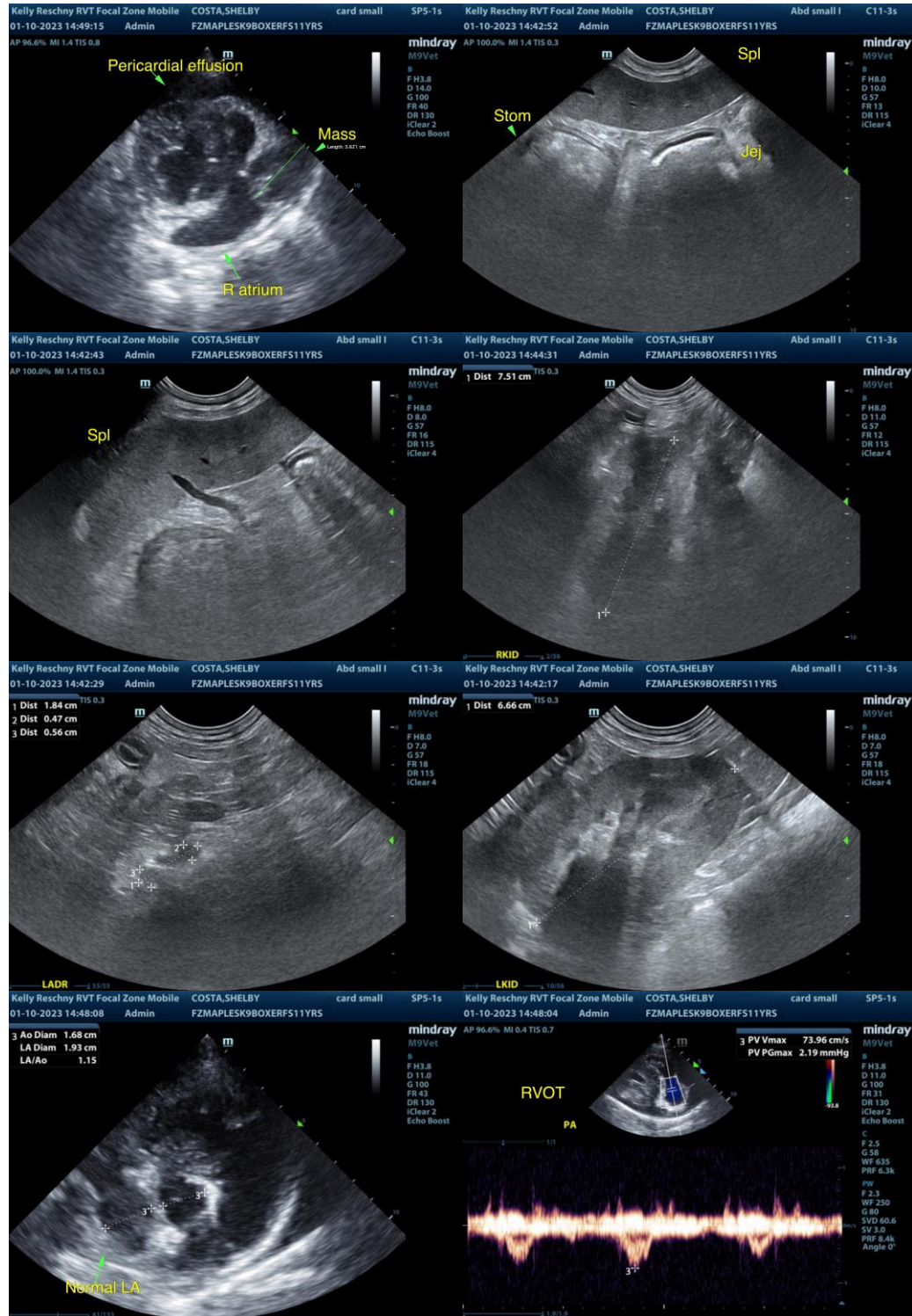
Dr. Kazienko

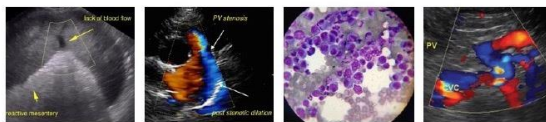
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## PATIENT

Shelby Costa

## SPECIES

Canine

**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.**

## BREED

Boxer

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.

## SEX

FS

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

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## WEIGHT

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