



**PATIENT PRESENTING CLINICAL SIGNS**

Izzy Tobey History: Pale mm, unable to climb stairs, lethargic, excessive panting, muffled heart sounds, splenic mass or pylorus- heart base tumor? H/o osteosarcoma of penis

**SPECIES** Abnormal PE/Chem/CBC/UA Results: HCT 33, 4Dx Neg.

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

**BREED**

Lab

**SEX**

Neutered Male

**AGE**

10 Years 11 Months

**WEIGHT**

89 Pounds

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	5.17	2.33	1.14	1.0	30	--	0.1
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	--	.85	.90	--	2.5	3.0	--

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Jessica Miller

**HOSPITAL NAME**

Animal Care Center of  
Flanders

**REFERRING VET**

Dr. Weagley

**INVOICE**

13179

**DATE**

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**Cardiac Presentation**

A 3.0 cm x 2.5 cm junctional right auricular free wall/right ventricular free wall mass noted in this patient. Collapse of the right auricle was present owing to pericardial effusion and tamponade effect. The right ventricle was subjectively subnormal in size. Left atrium and left ventricle subjectively normal to subnormal in size. Mitral insufficiency present, yet not clinically an issue. Hepatic veins were dilated in this patient consistent with passive congestion. Surrounding ascites also present. The ascites, given that it is transudate in nature upon abdominocentesis, is likely deriving from the tamponade effect upon the right auricle and pericardial effusion. Aortic velocity was subnormal. Trivial tricuspid insufficiency noted.

**Urinary System**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some minor age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 7.33 cm. The left kidney measured 6.54 cm.

**Adrenal Glands**



**PATIENT**

Izzy Tobey

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 1.95 cm x 0.58 cm at the caudal pole and 0.87 cm at the cranial pole. The left adrenal gland measured 2.82 cm x 0.59 cm at the caudal pole and 0.59 cm at the cranial pole.

**SPECIES**

Canine

**Spleen**

The **spleen** in this patient revealed expansive mixed hypoechoic mass, measuring 4.14 cm deriving from the cranial pole with peripheral inflammation. Minor heterogeneous changes noted elsewhere in the spleen in addition to the primary mass.

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Lab

**Liver**

The **liver** was slightly coarse in architecture with increased portal markings and normal gallbladder. No evidence of cavitated lesions noted, however, micrometastasis could not be completely ruled out.

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**Gastrointestinal**

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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**Pancreas**

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

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**Free Abdomen**

A large amount of **ascites** noted.

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**ULTRASONOGRAPHIC FINDINGS**

- Splenic mass
- Liver, slightly coarse in architecture with increased portal markings
- Ascites secondary to tamponade effect upon the heart owing to pericardial effusion and 3.0 cm right auricular mass

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The presentation is strongly consistent with multicentric hemangiosarcoma. Referral for pericardiocentesis, cytospin and FNA of the splenic mass all indicated with immediate chemotherapeutic intervention. Dual cavity hemangiosarcoma suspected. 3 view chest radiographs warranted to assess for pulmonary metastasis. Prognosis long term is poor, however, chemo-reduction of the pathology and palliative pericardiocentesis may allow for some level of quality of life.

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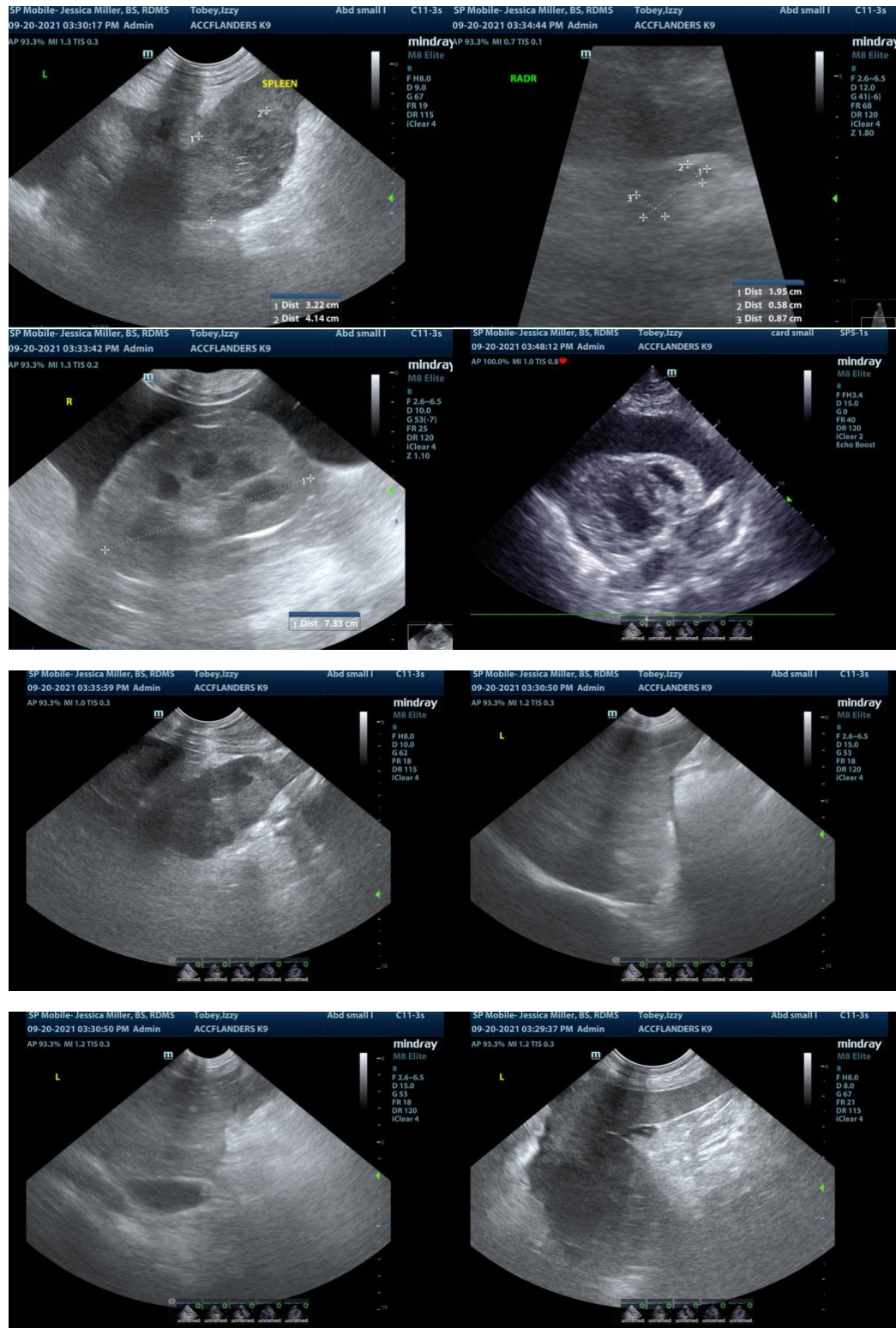
Dr. Weagley

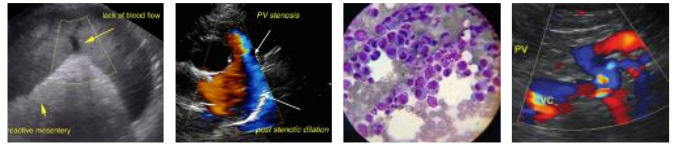
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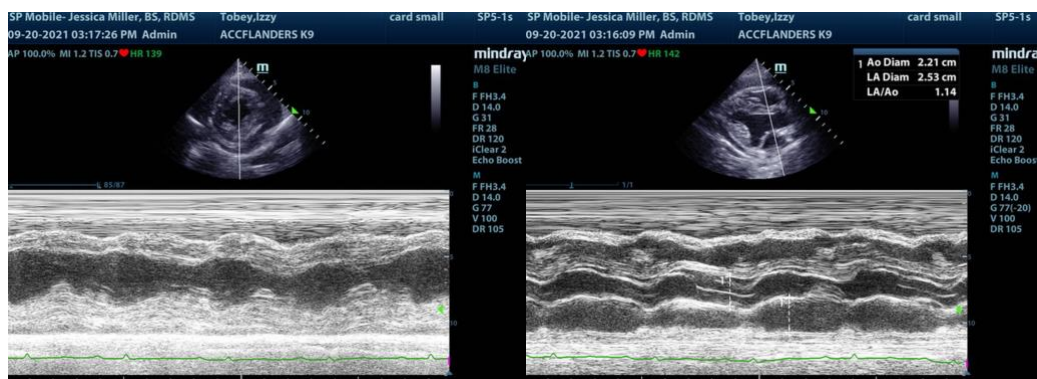
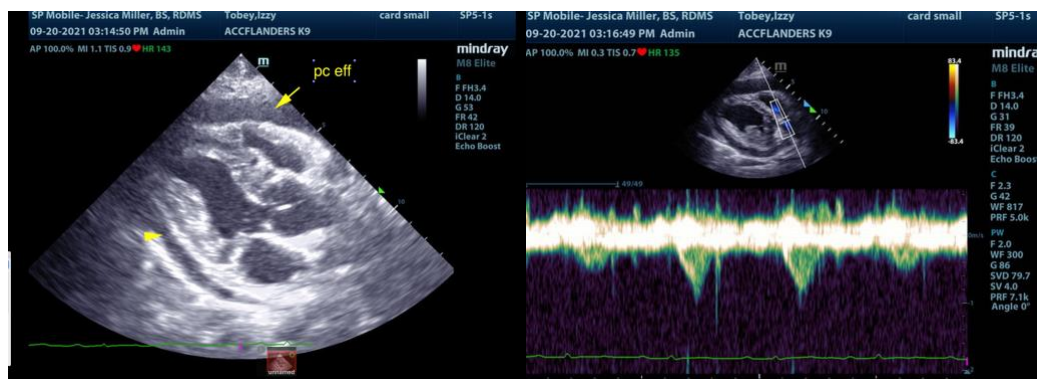
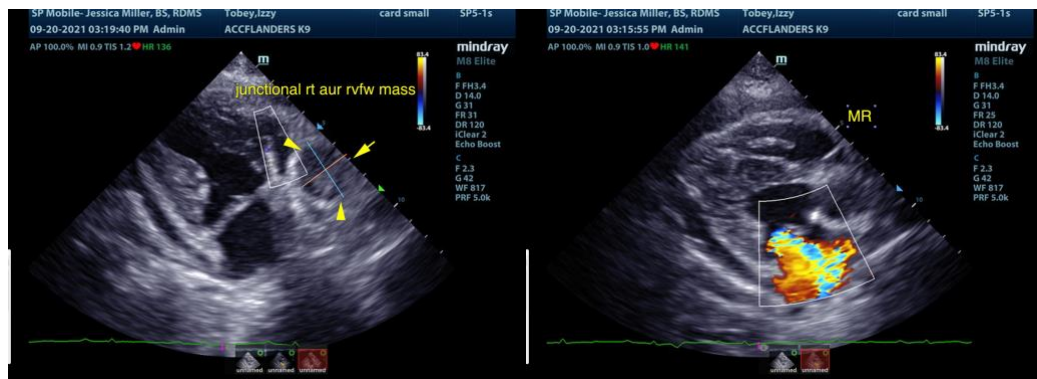
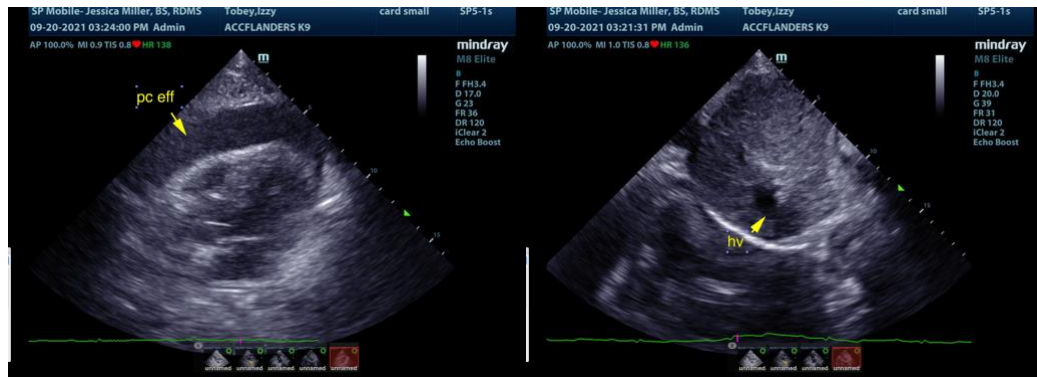
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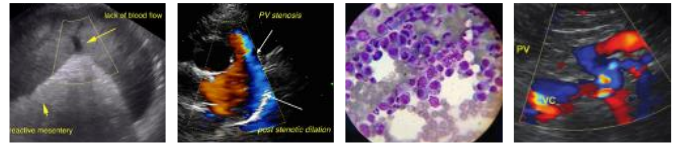
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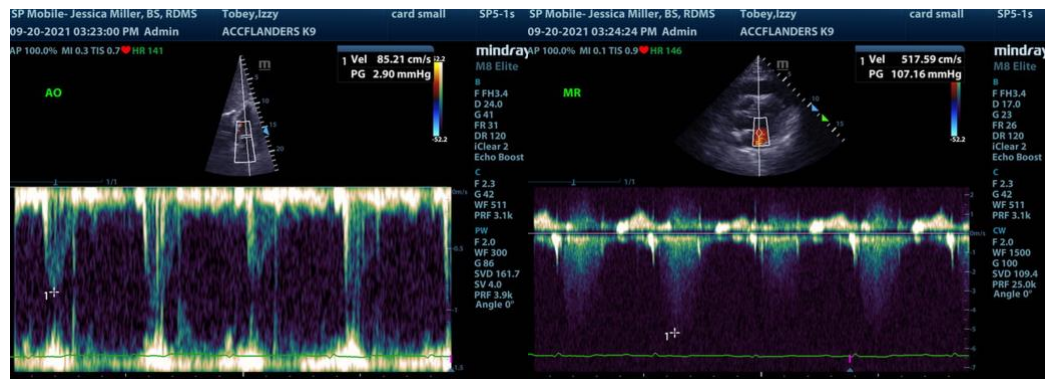
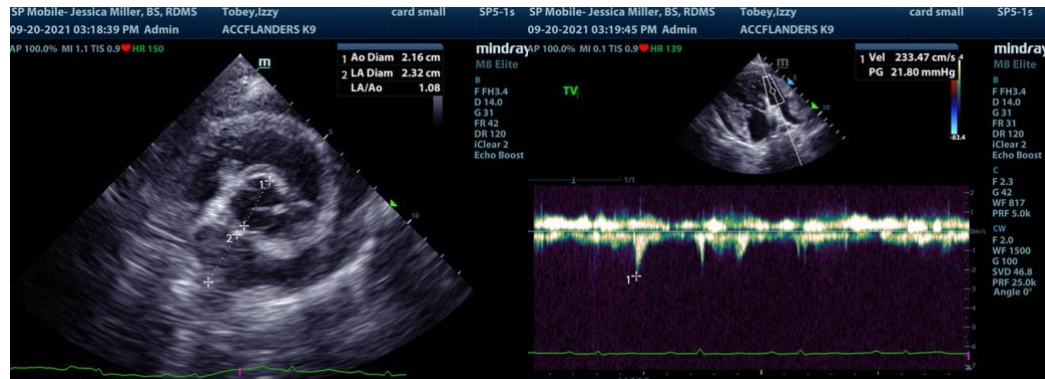
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
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