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Clinical Sonography & Telecytology
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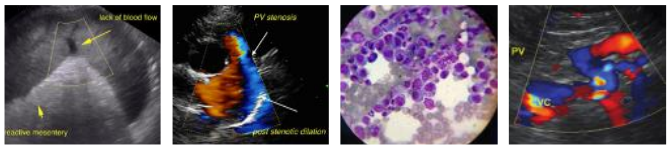


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Finn Hatch

SPECIES

Canine

BREED

Bernese Mtn. Dog

SEX

Male

AGE

5 Years

WEIGHT

130 Pounds

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Ramapo Valley AH

REFERRING VET

Dr. Katara

INVOICE

16782

DATE

8/8/22

PRESENTING CLINICAL SIGNS

History: Mass-like structure by right atrium on chest rads during rads before neutering. Current meds: Immunotherapy (chronic allergies)

Abnormal PE/Chem/CBC/UA Results: TP 7/6, Glob 4.3, T4 0.7, FT4 7.9

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

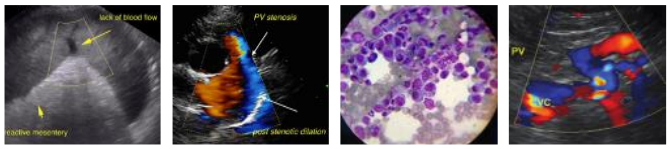
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	--	--	1.04	1.34	30	57	0.5
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (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	--	2.00	.88	--	5.0	4.61	--

Cardiac presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Minor mitral insufficiency noted (not clinically significant) with centralized to slightly eccentric jet. 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. Minor tricuspid insufficiency was noted, not clinically significant. 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. Bradycardia appeared to be present in this patient, EKG is indicated.

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



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was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **prostate** was uniformly enlarged (4.9 cm) with mild lobar swelling appeared to impinge upon the urethra and mildly deviate the descending colon. The prostatic tissue was hyperechoic containing focal areas of decreased echogenicity. These changes are suggestive of either chronic inflammatory episodes, benign cystic pathology or both. Underlying neoplasia cannot be completely ruled-out but is lower on the differential list. This presentation is most consistent with benign prostatic hyperplasia with possible active prostatitis. Neutering or off-label Finasteride (Propecia) (0.1-0.5 mg/kg Sid) treatment is indicated +/- FNA or prostatic wash cytology and culture. Some edema lines were noted in the prostate.

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 9.41 cm. The left kidney measured 8.3 cm.

Adrenal Glands

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 3.07 cm x 1.27 cm at the cranial pole and 0.41 cm at the caudal pole. The left adrenal gland measured 3.44 cm x 0.62 cm at the caudal pole and 0.65 cm at the cranial pole.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

Liver

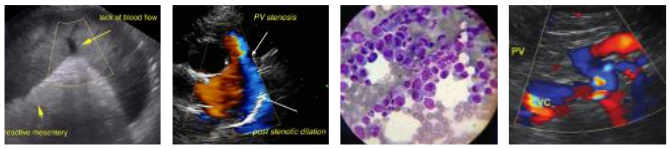
The **liver** itself was unremarkable. The gallbladder was mildly over distended with minor suspended and dependent debris, yet not to the level of emerging mucocele, yet sludge appears to be mildly excessive. No adjunctive inflammation was noted.

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.

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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Other

The **testicles** were imaged and found to be uniform.

ULTRASONOGRAPHIC FINDINGS

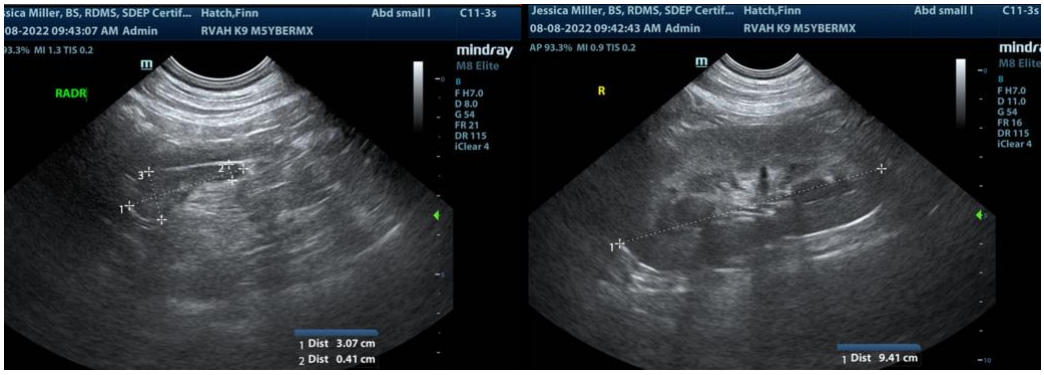
- Trivial mitral and tricuspid insufficiency
- No evidence of volume overload
- Bradycardia- EKG indicated to ensure heart block or other arrythmia is not an issue.
- BPH prostate and some edema lines were noted in the prostate
- Normal GI with partially full stomach
- Gallbladder sludge

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Structurally and functionally, the heart is unremarkable. Neutering should prove curative if any lower urinary tract/prostatic signs are present. Otherwise, alternative protocol, such as the following could be considered:

Finasteride at 1 mg/kg/day can be utilized as an off-label approach to reducing prostatic size in BPH cases. Coverage for prostatitis would also likely be appropriate with Fluoroquinolone/Baytril or similar. A recheck sonogram is recommended in 3-4 weeks with reassessment of the urinalysis and evaluation of any inflammatory sediment.

There is no direct cardiac or abdominal pathology that appears to be related to the thoracic presentation. It appears isolated. The acoustic window was not evident; to image the structure CT evaluation would be ideal for potential surgical planning or full sedation with manual thoracic compression and reattempt from a right cranial intercostal approach. Based on radiographs, the mass is separated by lung that is causing acoustic interference. Differentials include round cell neoplasia, thymoma or potential mediastinal cyst (less likely).



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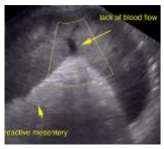
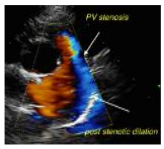
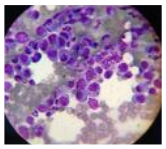
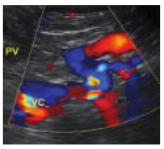

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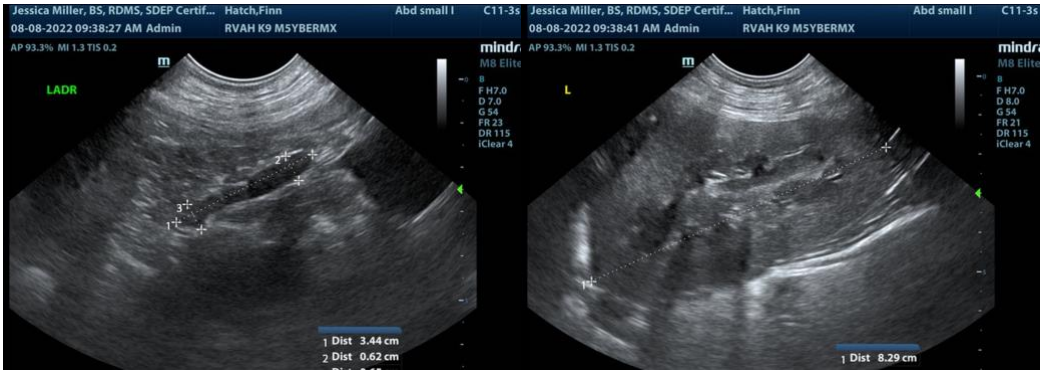

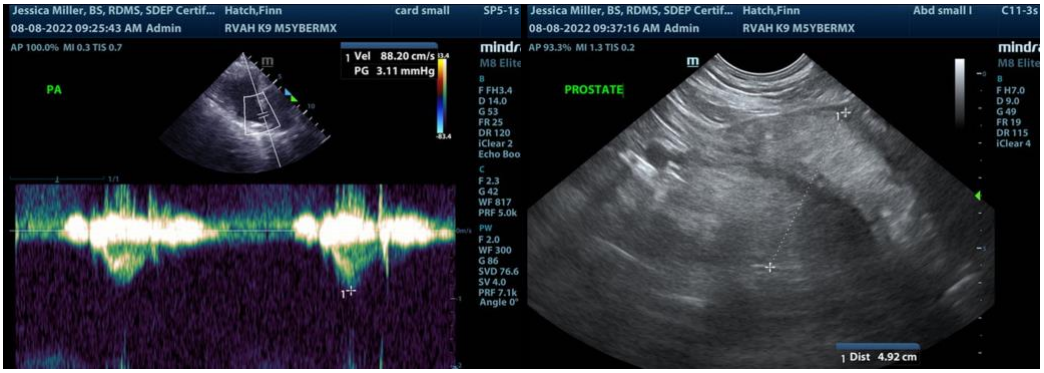

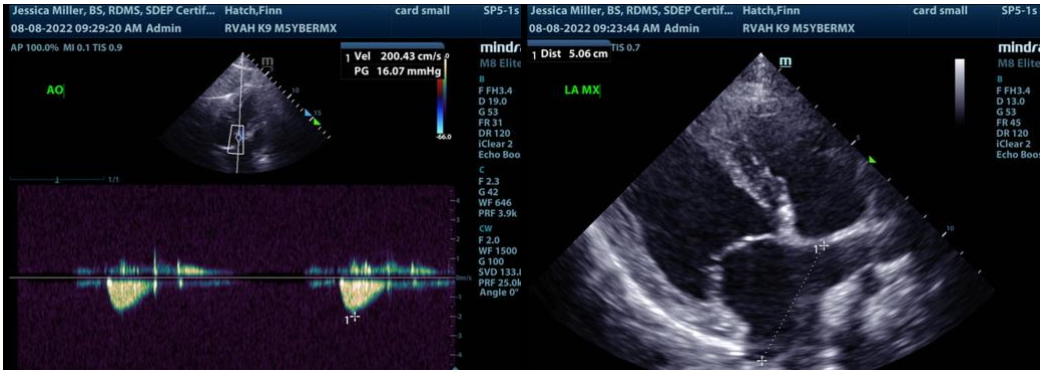

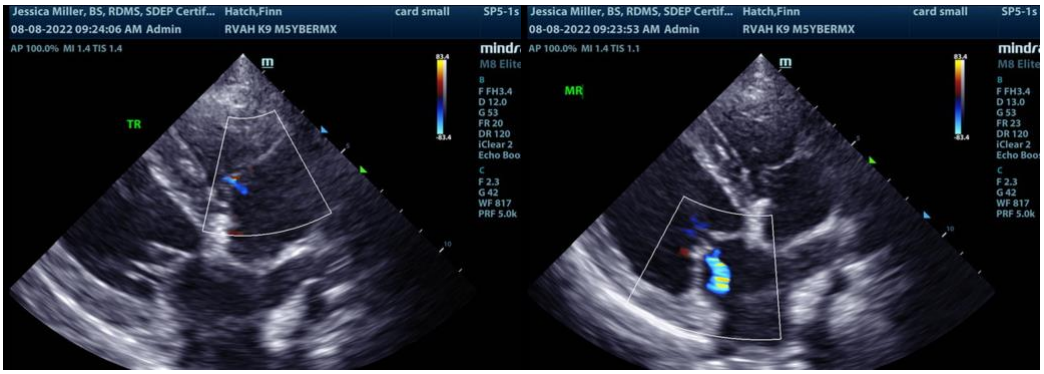

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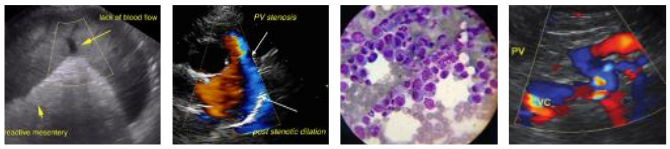

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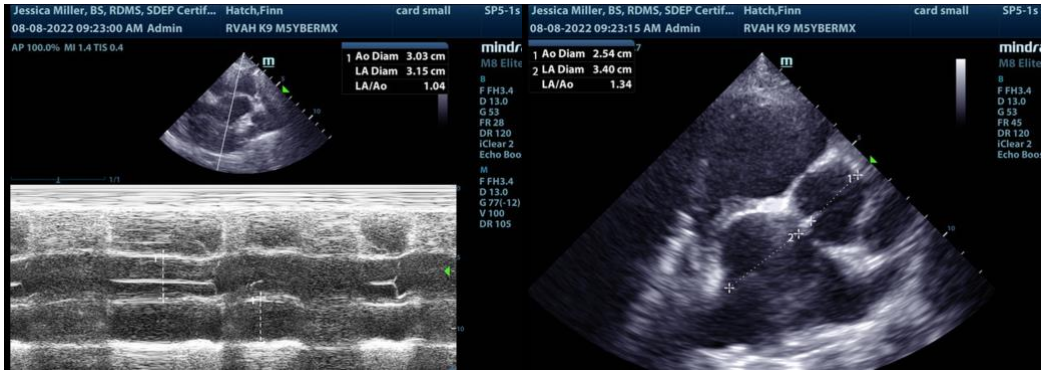

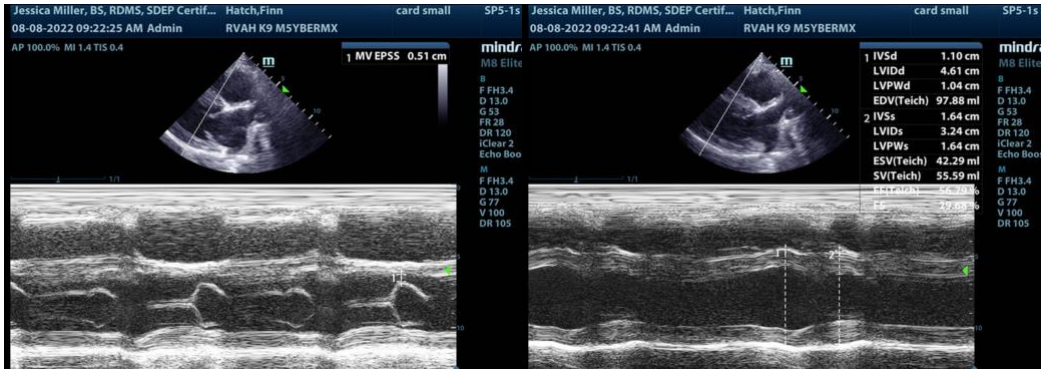

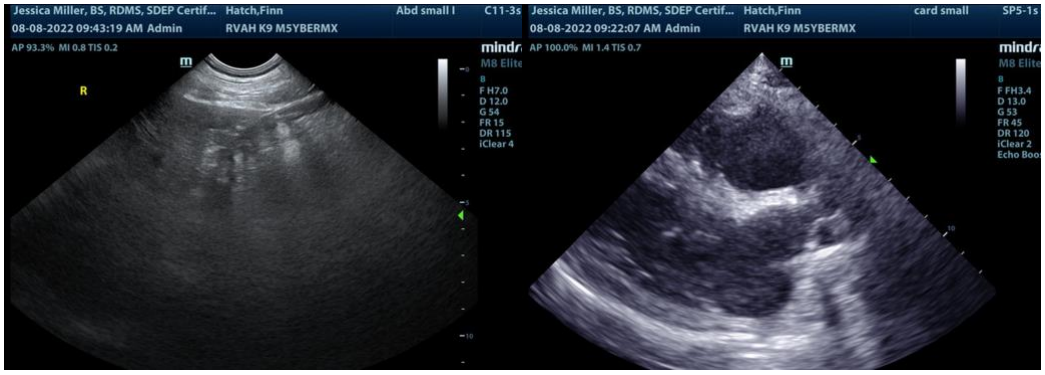

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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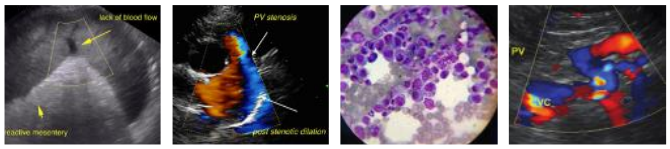

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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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