



PATIENT PRESENTING CLINICAL SIGNS

Reece Graham History: Patient presented for exam with history of murmur 6/18/22. Recommended cardiac workup. On 7/9/22 crackles were heard on the left side of thorax

SPECIES

Canine

Abnormal PE/Chem/CBC/UA Results: Grade 4/6 murmur, severe dental disease 4/4, x-rays showed left atrial enlargement and VHS 12.3. X-rays also revealed abdominal mass. Patient was very painful on Echo position 4 and abdomen 8,11,14.

BREED

Chihuahua

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

SEX

Female

AGE

11 Years

WEIGHT

5 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	<1.3	28-40	40-100	<0.6
PATIENT	5.50	--	1.1	1.3	45	--	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				
PATIENT	--	--	.60	--	2.3	1.77	--

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. Slight prolapse of the anterior mitral valve leaflet noted. Doppler indicated measurable insufficiency. 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 or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

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Ray Caughman

HOSPITAL NAME

Dogwood AH

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Urinary System



PATIENT

Reece Graham

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.

SPECIES

Canine

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 left kidney measured 2.44 cm. The right kidney measured 2.44 cm.

BREED

Chihuahua

Adrenal Glands

SEX

Female

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 left adrenal gland measured 1.03 cm x 0.3 cm at the cranial pole and 0.63 cm at the caudal pole.

AGE

11 Years

Spleen

WEIGHT

5 Pounds

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

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The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

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Gastrointestinal

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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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Other

The **uterus** appeared thickened (1.5 cm) in this patient with fluid filled cavity dorsal cranial to the urinary bladder. Other uterine horns were also dilated.

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ULTRASONOGRAPHIC FINDINGS



PATIENT

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- Stage B-1 valvular disease with minor mitral prolapse, compensated
- No evidence of volume overload
- Thickened, irregular uterus with fluid filled cavities, consistent with pyometra. There is a possibility of underlying neoplasia.

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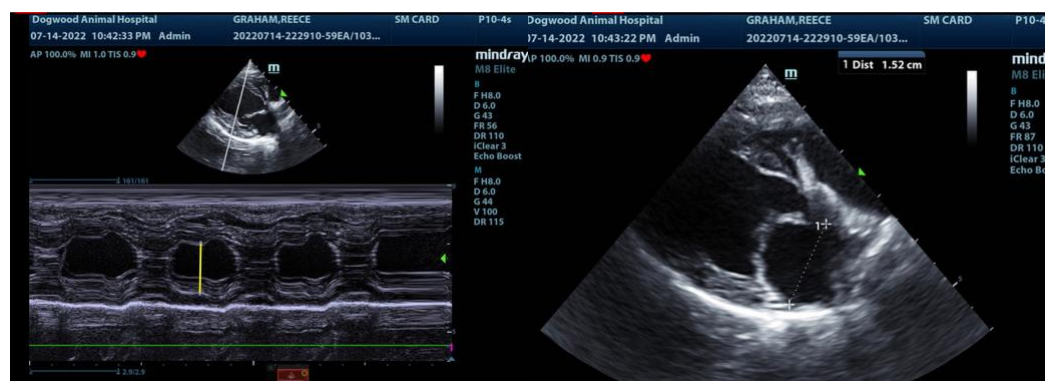
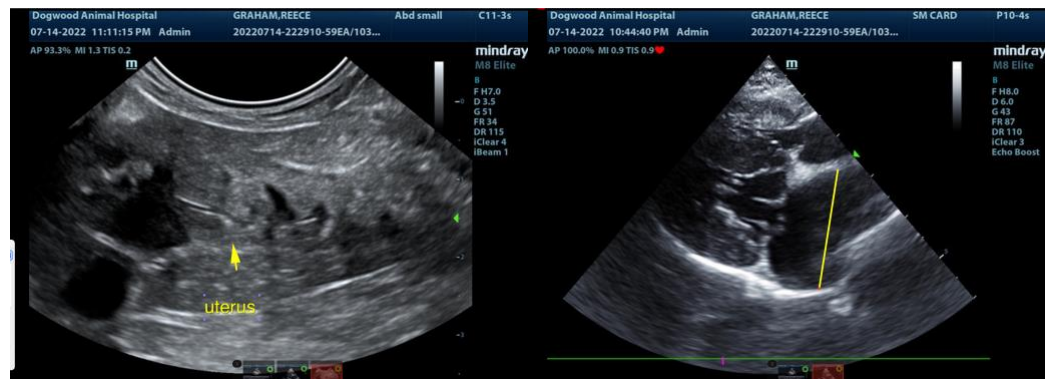
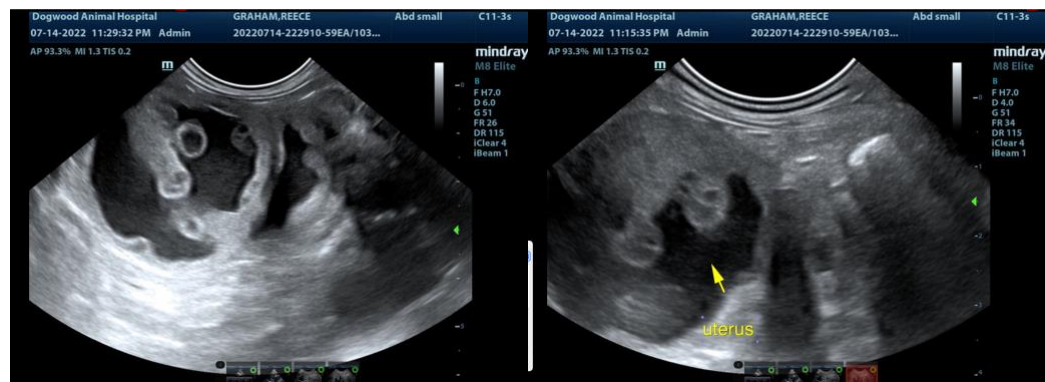
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Immediate ovariohysterectomy is recommended. Torbutrol (premed), propofol (induction), and isoflurane (maintenance) is recommended for surgical intervention. Likely possibility of underlying neoplasia, appears to be contained.





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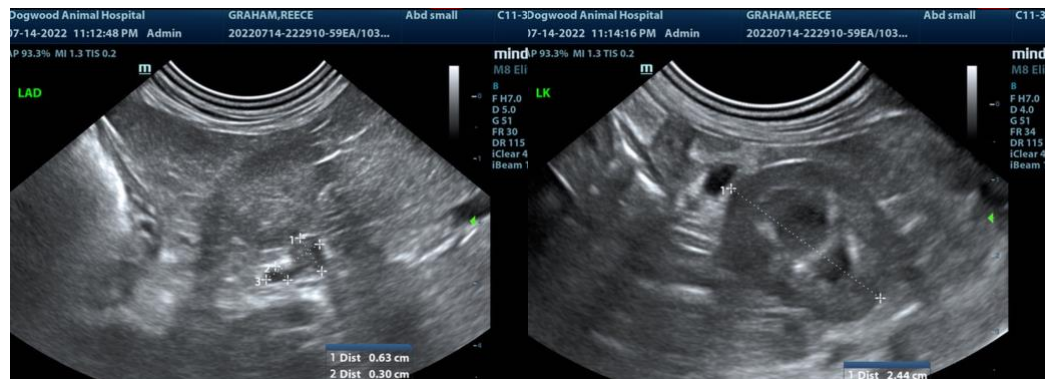
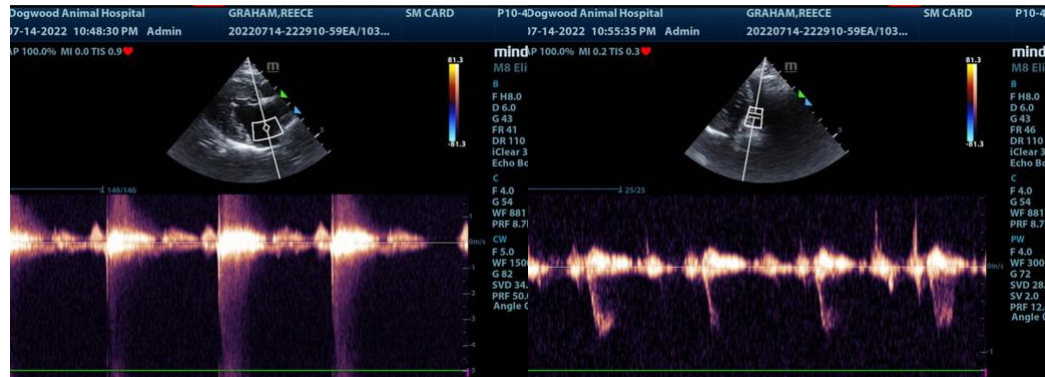
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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