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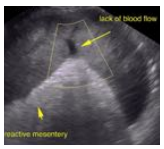
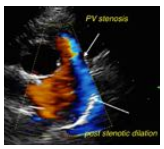
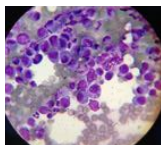
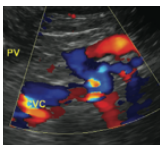

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1-800-838-4268 info@sonopath.com

PATIENT

Trixie Grell

SPECIES

Canine

BREED

Bassett Hound

SEX

Spayed female

AGE

11 years

WEIGHT

52 lbs

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Amanda Crook SDEP Certfied Sonographer

HOSPITAL NAME

Rivers Edge Pet Medical Center

REFERRING VET

Dr. Gray

INVOICE

43212

DATE

3/8/23

PRESENTING CLINICAL SIGNS

History: P presented 2/26/23 for vomiting treated with empircal therapy (cerenia, bland diet, gabapentin); presented 3/1/23 for still vomiting/anorexia, labwork showed diabetes - placed on 6U vetsulin BID and appetite stimulant and cerenia. P continues to vomiting and be anorexia despite therapeutics. P is having collapse-like episodes.
Abnormal PE/Chem/CBC/UA Results: Abdominal Films - Mild loss of detail inflamed gut no mass effect seen liver slightly enlarged Thoracic Films - Abnormal R aspect of cranial thorax - artifact vs. pathology Labwork attached - CBC = MCV 60.1, MCH 19.3, PCT 0.55, CHEM = Glu 591, BUN 70, ALB 4.1, ALT and ALKP Too high to read, LIPA 1864, NA 143, Cl 102, UA shows glucosuria, USG 1.026, Ketones 50 ECG normal per IDEXX Blood Pressure: 116, 120

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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** concentric hypertrophy and myocardial remodeling. **Myocardial** remodeling was present. **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. Aortic insufficiency was noted, yet not clinically significant unless systemic hypertension is present. 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. An extracardiac lung consolidation was noted in this patient. The lesion measured approximately 5.0 cm. The exact position is unclear.

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base;)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT			1.0	1.3			NM
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT**	**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			1.71	52 lbs	3.29	1.92	

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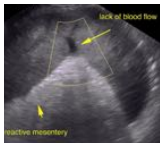
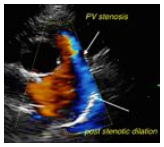
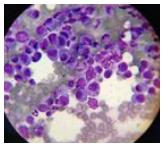
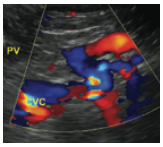

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ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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 was 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 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 6.67 cm. The left kidney measured 6.77 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 left adrenal gland measured 2.52 x 0.58 cm at the cranial pole and 0.69 cm at the caudal pole. The right adrenal gland revealed a hyperechoic nodule at the cranial pole measuring 1.64 x 1.05 cm. The right adrenal gland measured 2.77 x 2.01 cm at the cranial pole and 0.73 cm at the caudal 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 was noted.

Liver

The **liver** was uniformly swollen with minor, excessive gallbladder debris and over distension with dependent and suspended bile without evidence of overt mucocele formation. However, excessive sludge was present. The liver presented coarse architecture with mildly increased portal markings and subtle, mixed echogenic changes. This is consistent with vacuolar hepatopathy and some level of remodeling and history of inflammatory component. There was no overt suspicion of neoplasia.

Gastrointestinal

The gastric wall was thickened in this patient with hypertrophied mucosa. The muscularis and submucosa was intact. I suspect underlying gastritis or history of gastritis.

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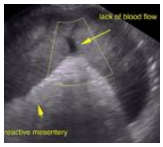
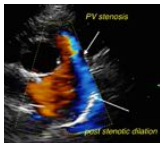
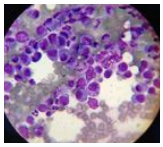
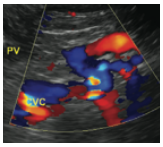

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Pancreas

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.

ULTRASONOGRAPHIC FINDINGS

Normal echocardiogram with minor concentric left ventricular hypertrophy and aortic insufficiency, rule out underlying systolic hypertension.

Suspect thoracic lung mass. Differentials include lung necrosis, carcinoma and sarcoma.

Right adrenal nodule. Hyperplasia/adenoma likely.

Acute inflammatory hepatopathy as structurally the liver appears unremarkable.

Gastric hypertrophy.

Bladder debris.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Assessment for systemic hypertension is indicated. Ultrasound-guided FNA of the lung consolidation is indicated or CT with contrast to assess for potential surgical planning. FNA of the liver is also indicated. Primary treatment is recommended to stabilize the diabetic state. Leptospirosis titers are indicated given the elevated liver enzymes despite structurally unremarkable liver changes.

Potential Causes of Diabetic Dysregulation

This is a suggestive checkoff list when faced with an unregulated diabetic patient:

UTI

Dietary indiscretion/intolerance

Pancreatitis

Hyperthyroidism/hypothyroidism

Exogenous steroids (including topical eye meds)

Cushing's

Acromegaly

Owner compliance

Insulin quality issues

Antibodies to insulin

Underlying Neoplasia

Diffuse liver disease

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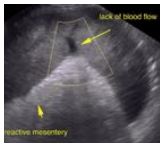
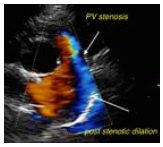
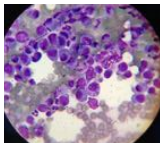
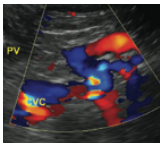

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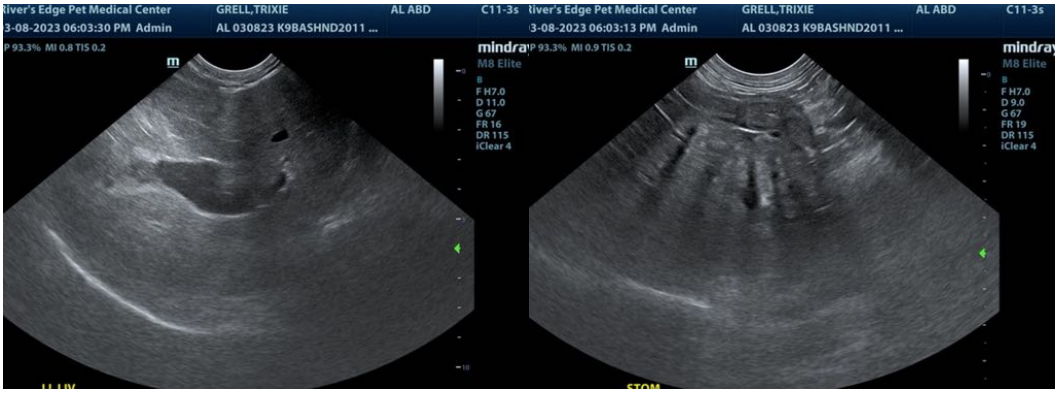

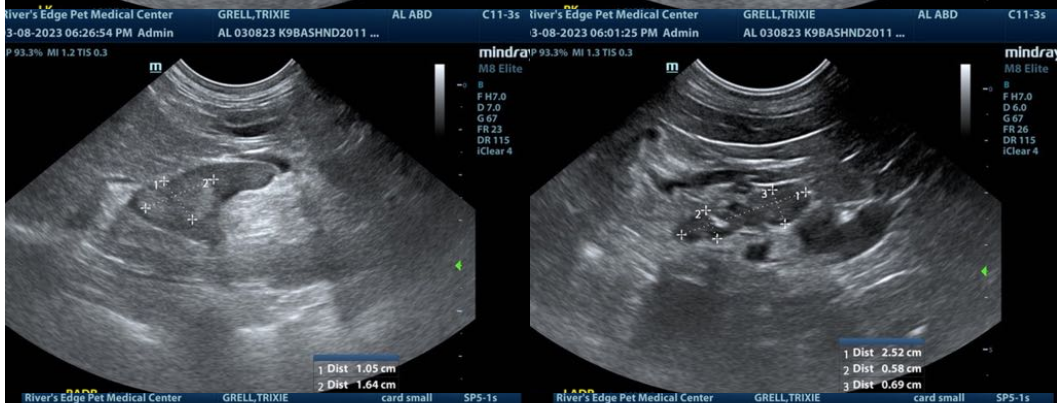

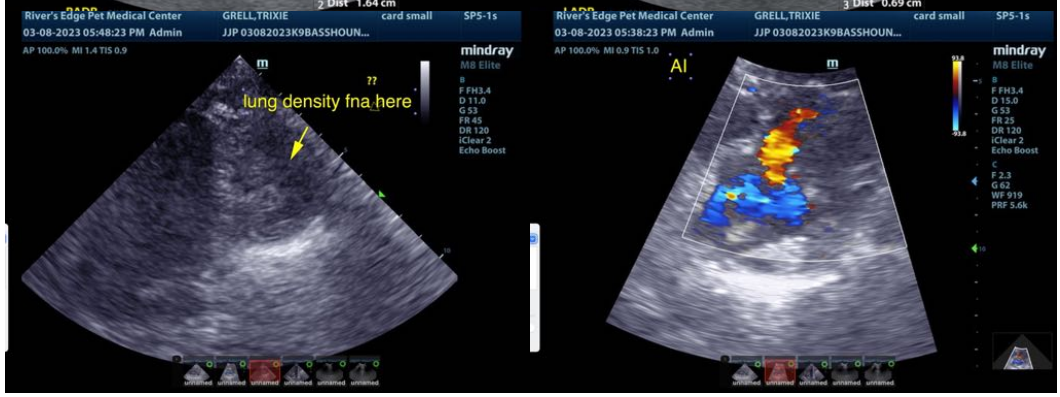

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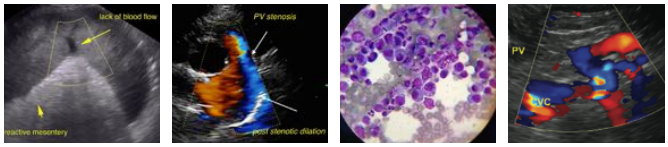

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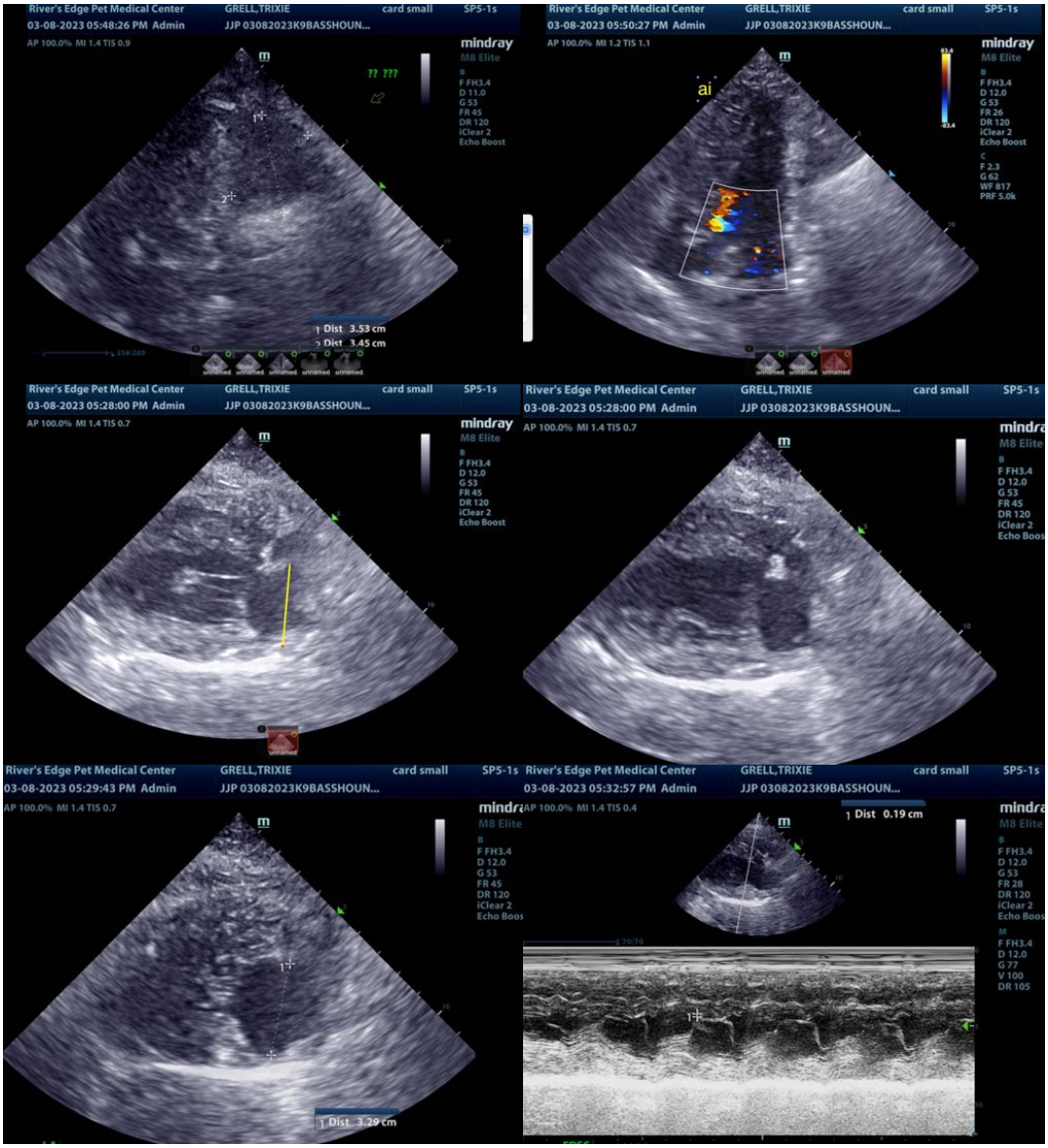

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
info@SonoPath.com