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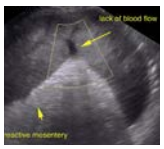
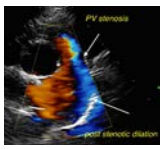
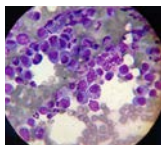
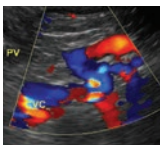

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1-800-838-4268 info@sonopath.com

PATIENT
Lucy Gerges

SPECIES
Canine

BREED
Australian Kelpie

SEX
Spayed Female

AGE
7 Years

WEIGHT
38.6 Pounds

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Shari Reffi, CVT

HOSPITAL NAME
Newton Vet Hospital

REFERRING VET
Dr. Kim

INVOICE
38060

DATE
5/27/22

PRESENTING CLINICAL SIGNS

Pancreatitis, anorexic, gained 2lbs on IVF, developed fever 104.3 F, painful abdomen, vomiting. Current meds: Cerenia, Buprenex, Unasyn, Entyce, Lantus 18U bid.
Abnormal PE/Chem/CBC/UA Results: CPL abnormal, neut 12.52 (12.3 H); Phos 7 (5.0 H); TP 7.8 (7.6 H); Glob 4.6 (3.6 H); Glucose 565 (125 H), Chol > 450, AIP 351 (140H); Cl 97 (120 H)

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	<1.6	28-40	40-100	<0.6
PATIENT			1.3	1.4	33	63	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	141	1.4	1.19		3.26	3.35	

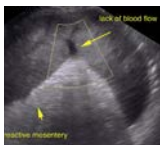
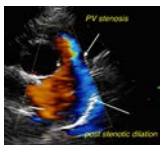
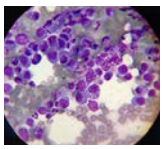
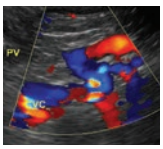
Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Trivial **mitral** insufficiency noted. 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** was mildly enlarged. **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.

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 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.

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The capsules were acceptably uniform without significant irregularities. The right kidney measured 6.46 cm. The left kidney measured 5.9 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 1.76 cm x 0.47 cm at the cranial pole and 0.46 cm at the caudal pole.

Spleen

The **spleen** was diffusely hyperechoic to falciform fat, may be owing to the diabetic state.

Liver

The **liver** presented diffuse hepatomegaly with hyperechoic parenchyma compared to falciform fat. The gallbladder was unremarkable. The hepatic veins were mildly dilated. Mild passive congestion pattern noted.

Gastrointestinal

The **stomach** was overdistended, consistent with ileus. However, the tethered upper duodenum owing to pancreatic pathology is likely contributing to delayed outflow. The upper duodenum was spastic.

Pancreas

The **pancreas** revealed extensive mixed hypoechoic pancreatic parenchymal changes with enhanced surrounding mesentery noted throughout the right limb and base.

Free Abdomen

Trace amounts of free fluid noted in the abdomen.

ULTRASONOGRAPHIC FINDINGS

- Mildly enlarged right heart
- Trivial mitral insufficiency
- Extensive pancreatic necrosis with duodenal outflow obstruction
- Diabetic hepatopathy
- Extensive peritonitis

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No primary cardiac disease noted. Assessment for primary pulmonary disease and secondary right-sided cardiac enlargement indicated.

Recommend aggressive therapy for pancreatitis with plasma transfusion in this patient and plasma expansion. The patient is at high risk for thromboembolic events. Broad-spectrum antibiotics and GI protectants recommended +/- gastric tube to evacuate the extensive fluid accumulation in the stomach. Prognosis is guarded. Recheck sonogram in 3-5 days.

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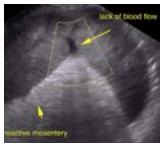
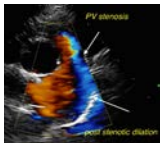
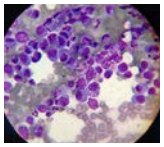
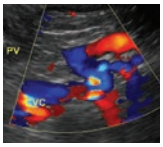

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Potential Causes of Diabetic Dysregulation

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

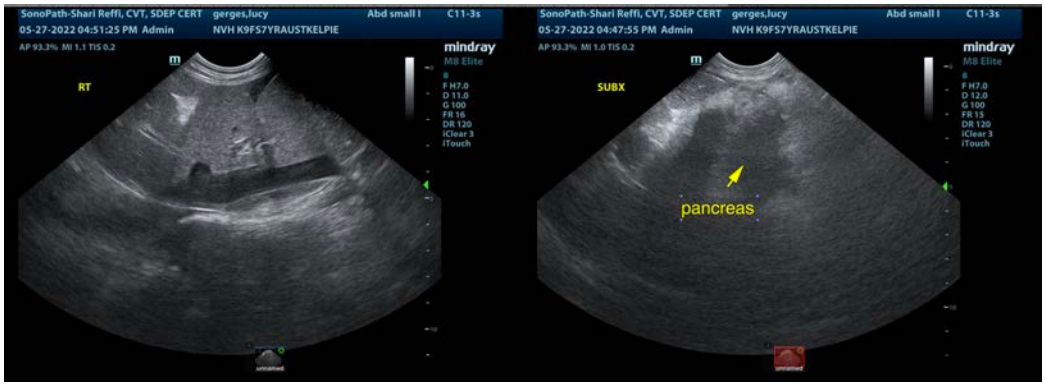
Owner compliance

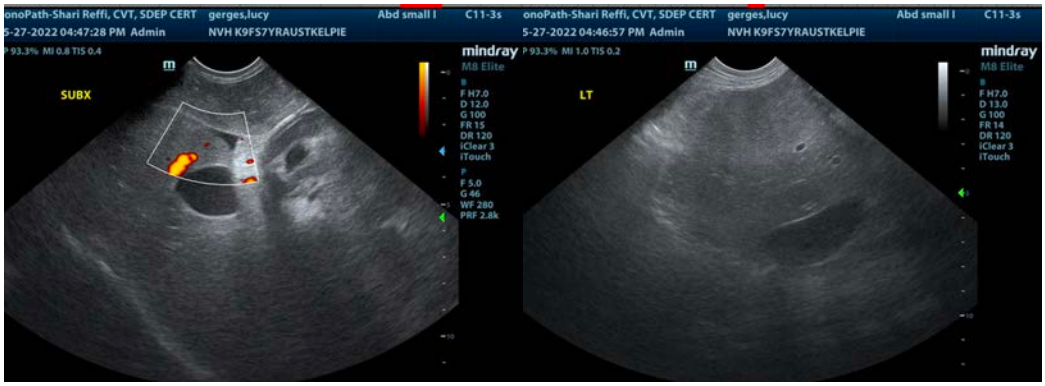
Insulin quality issues

Antibodies to insulin

Underlying Neoplasia

Diffuse liver disease





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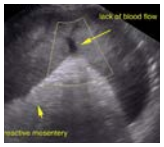
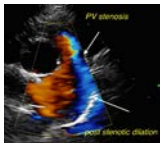
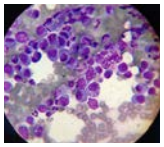
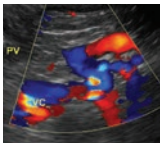

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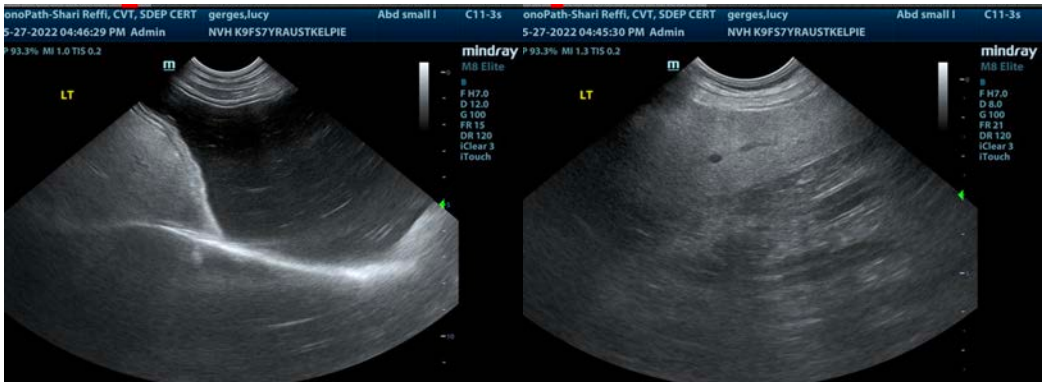

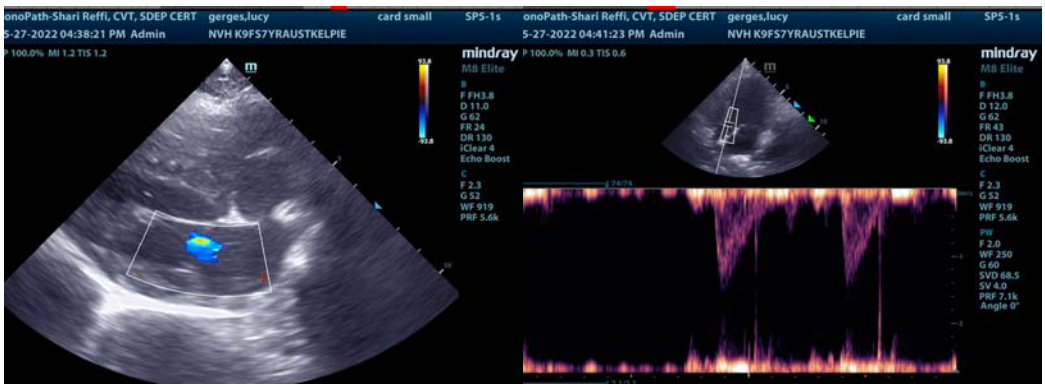

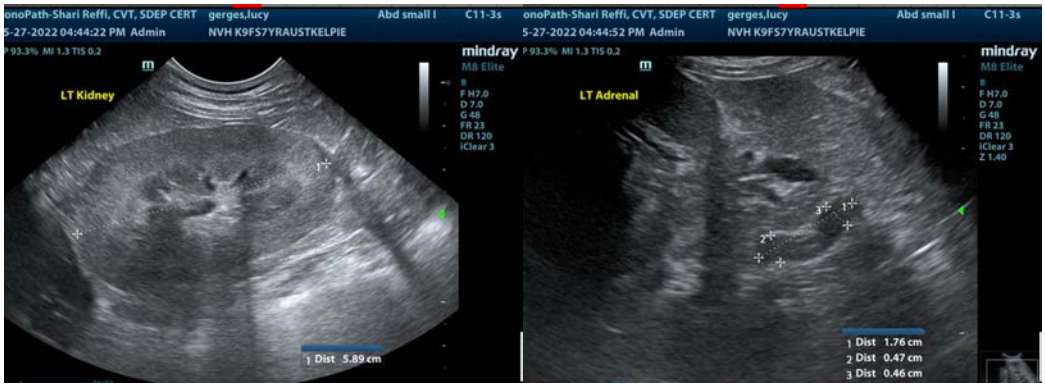

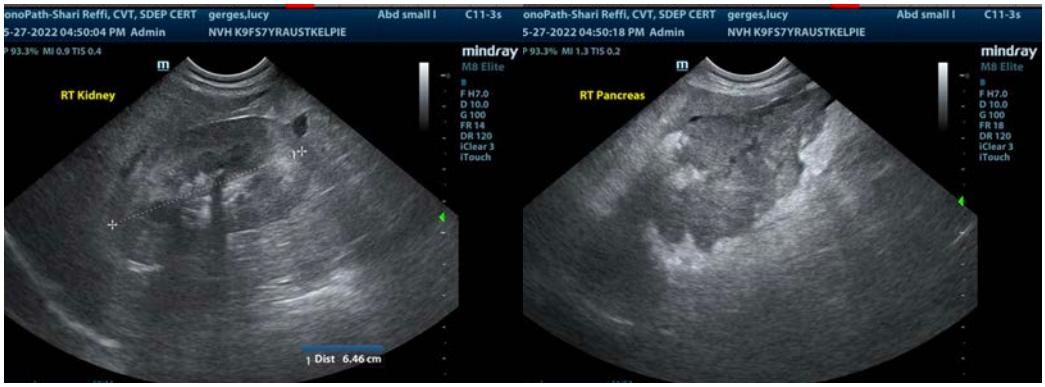

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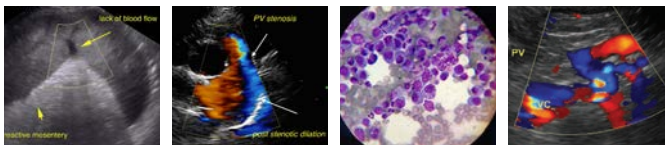

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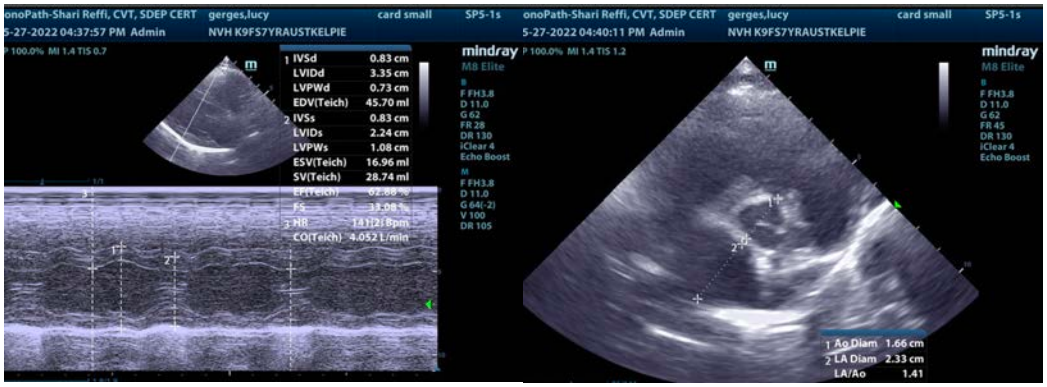

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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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

info@SonoPath.com