



**PATIENT**

Chelsea Linsig

**SPECIES**

Canine

**BREED**

Puggle

**SEX**

Spayed female

**AGE**

14 years

**WEIGHT**

11.4 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Belan

**HOSPITAL NAME**

Calgary Family Vet

**REFERRING VET**

Dr. Lopez

**INVOICE**

42861

**DATE**

2/16/23

**PRESENTING CLINICAL SIGNS**

History: Vomiting once in last 3 days poor appetite painful in cranial abdomen.  
Abnormal PE/Chem/CBC/UA Results: Elevated amylase and ALP stress neutrophilia and hyperglobinemia

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The pelvic urethra was imaged 3.0 cm beyond the cystourethral junction and appeared normal. 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 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 6.0 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 0.51 cm. The left adrenal gland measured 0.42 cm.

**Spleen**

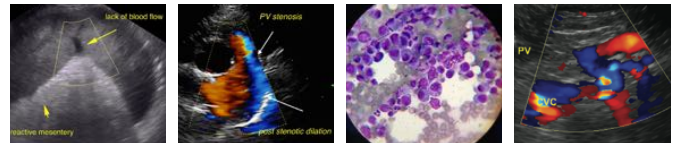
The **spleen** revealed a 0.93 x 1.0 cm nodule at the cranial pole with capsular expansion. Other splenic nodules measured up to 1.96 cm and 1.57 cm.

**Liver**

The **liver** revealed coarse architecture with increased portal markings and multi-focal, hypoechoic nodular changes. The gallbladder and common bile duct were unremarkable.

**Gastrointestinal**

The **pylorus** was mildly thickened with echogenic mucosal remodeling and hypertrophy. There was retention of ingesta noted in the stomach. The small intestine and colon were unremarkable other than minor colonic hypertrophy. There was no loss of mural detail.



**PATIENT**

***Pancreas***

Chelsea Linsig

The **pancreas** was enlarged, hypoechoic and irregular with enhanced surrounding mesentery. The right pancreatic limb measured 1.6 cm.

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Canine

**ULTRASONOGRAPHIC FINDINGS**

Multiple, splenic nodules/emerging masses.

**BREED**

Puggle

Multi-focal, hepatic nodular changes with remodeling.

Prominent, irregular right limb of the pancreas. This is consistent with pancreatitis and necrosis; however, given the splenohepatic presentation underlying neoplasia cannot be ruled out.

**SEX**

Spayed female

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

FNA of the spleen, liver and pancreas is recommended. Chest radiographs are warranted to assess for comorbidities. The prognosis is very guarded. If by chance the pancreas and liver are free of underlying neoplasia then splenectomy and hepatic biopsies can also be considered. Treatment for pancreatitis is recommended. Round cell neoplasia, splenic abscessation and hemangiosarcoma are all possible of the spleen. Nodular hyperplasia and cholangiohepatitis history is possible versus metastatic disease of the liver. Pancreatitis/pancreatic necrosis and regional inflammation versus pancreatic neoplasia are all possible.

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MI 1.2	Tis 1.0	Frq 10.0	Gn 33	D 6.0
FR 14	AO% 100	CHI		
CF				
Frq 6.3	Gn 25.0	L/A 2/5	PRF 4.1	WF 617
S/P 2/16				

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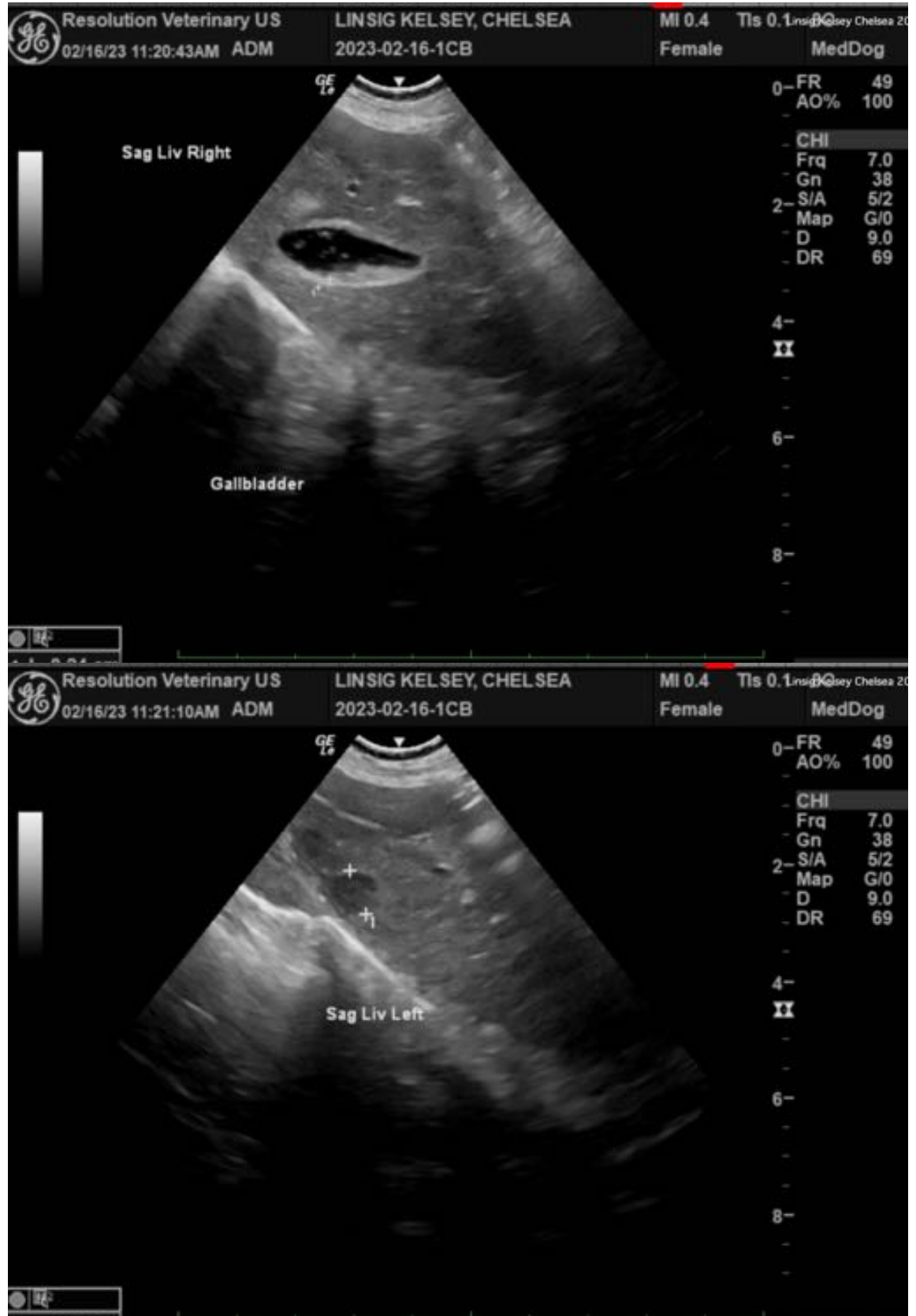
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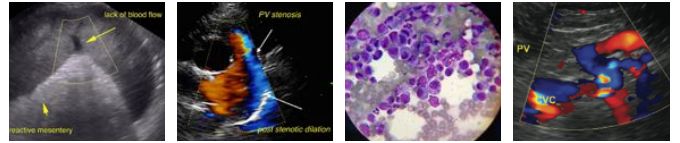
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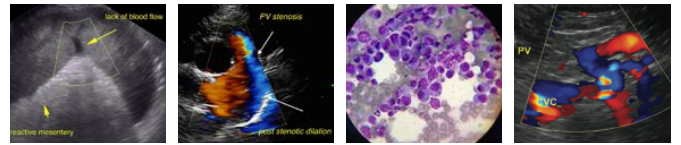
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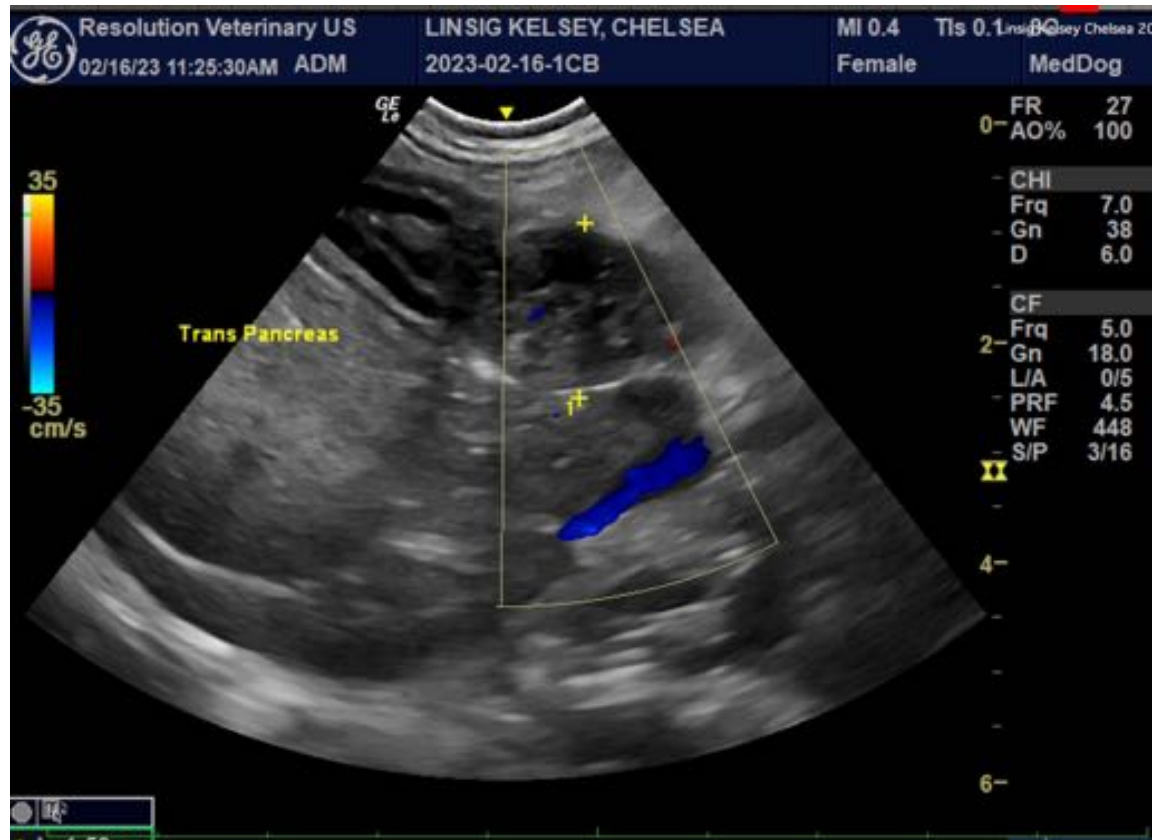
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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