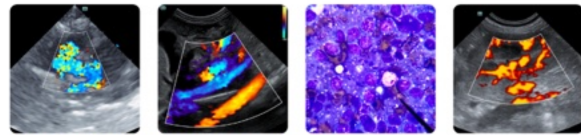

PATIENT

Casper Gross

SPECIES

Canine

BREED

Mix

SEX

Neutered male

AGE

16 years

WEIGHT

12 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

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INVOICE

71618

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2/17/26

PRESENTING CLINICAL SIGNS

History of stage 2 chronic renal disease.
SDMA 25, creatinine 2.4, BUN 84.

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** presented a relatively uniform cortical hyperechogenicity when compared to the renal medulla, spleen and liver. No overt masses were noted. Corticomedullary definition was nebulous and the ratio favored the cortex slightly. The ureters were not visible and assumed to be normal. These changes are most consistent with chronic interstitial nephritis yet infiltrative disease could not be entirely ruled out without biopsy though neoplasia is not suspected. Pyelectasia was noted along with irregular contour and remodeling. Blood flow to the kidneys appeared to be slightly subnormal. Cortical infarcts and remodeling were noted. The left kidney measured 3.87 cm. The right kidney measured 4.03 cm.

The residual prostate measured 0.8 cm.

Adrenal Glands

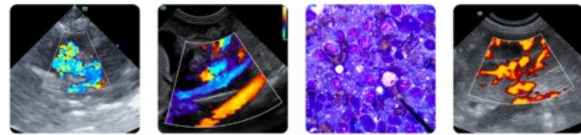
Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 1.5 x 0.64 cm. The right adrenal gland measured 2.0 x 0.85 cm at the cranial pole and 0.68 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** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. A hypoechoic nodule was noted in the left liver and measured 1.15 cm.



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Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder was over distended with polypoid changes. In long axis the gallbladder measured 5.3 x 4.3 cm. Striating, suspended and coalesced bile was noted along with over distension. This is consistent with emerging gallbladder mucocele. The common bile duct was dilated and followed to the duodenal papilla measuring 0.5 cm, which was mildly excessive. No obstruction was noted. Minor echogenic material was noted in the common bile duct and may represent an early mucoduct formation.

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. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

ULTRASONOGRAPHIC FINDINGS

- Moderate to near end stage degenerative renal disease.
- Emerging gallbladder mucocele.
- Age related abdominal changes otherwise with left liver nodule, likely hyperplasia with the possibility of necrosis, abscessation and emerging neoplasia less likely.

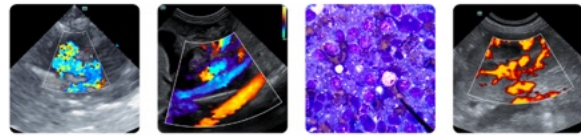
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Gallbladder motility study would be ideal in this patient. Ursodiol trial over a 6-8 week period and recheck sonogram would be ideal. Bile acid profile is recommended.

Gall Bladder Motility Study

Preparation:

- Fast the dog for 12 hours before the test to ensure gallbladder is full.
- Obtain baseline ultrasonographic long axis measurements of gallbladder size in SDEP 11 & SDEP 12 positions. Long axis apex to neck, short axis at widest point.



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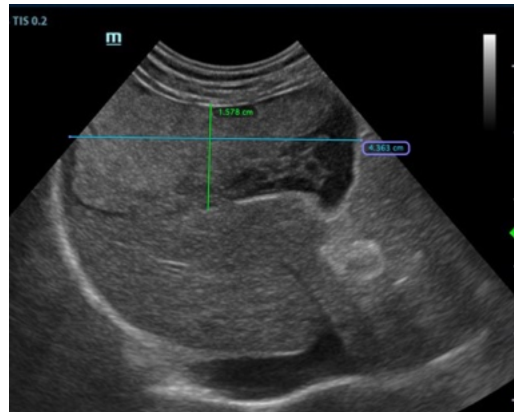


EXAMPLE IMAGE ONLY.

Meal Administration

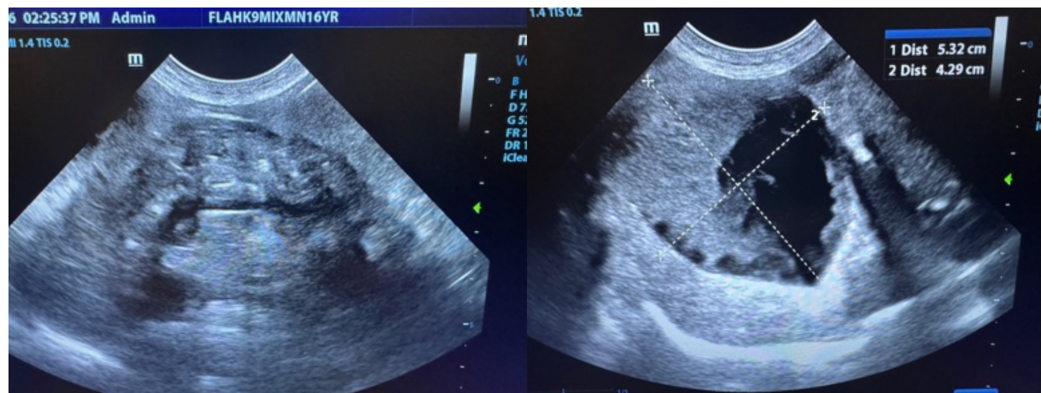
- Feed a high-fat test meal A/D diet (Hills) (*High Fat/ High Protein*)

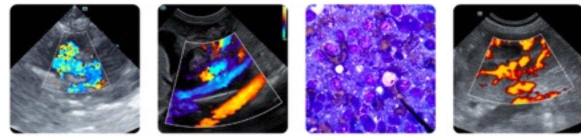
Post-Prandial Imaging

- Perform repeat ultrasound prior to feeding (Time 0) and then at 15 & 30 minutes post-meal.
- Re-measure gallbladder volume and assess for contraction.

No change or enlargement: Possible stasis, dyskinesia, mucocele risk, or obstruction.

SonoPath is currently conducting a study for publication on this subject and contributions of image sets following this protocol are appreciated. Info@sonopath.com for more information.





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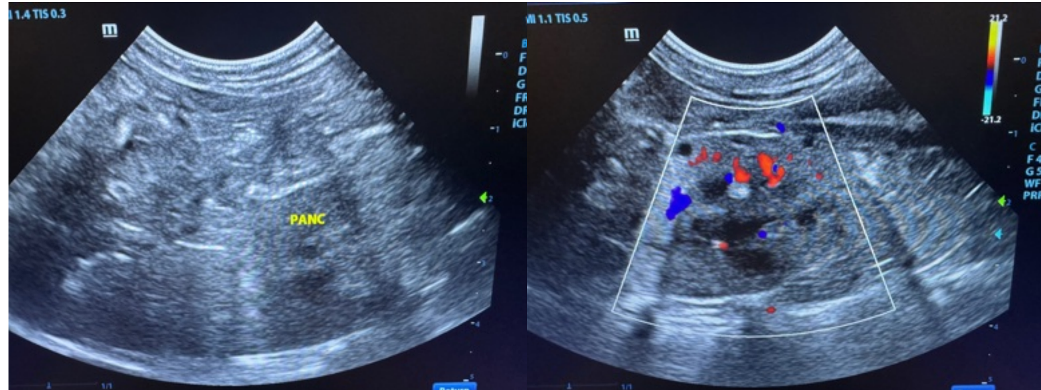

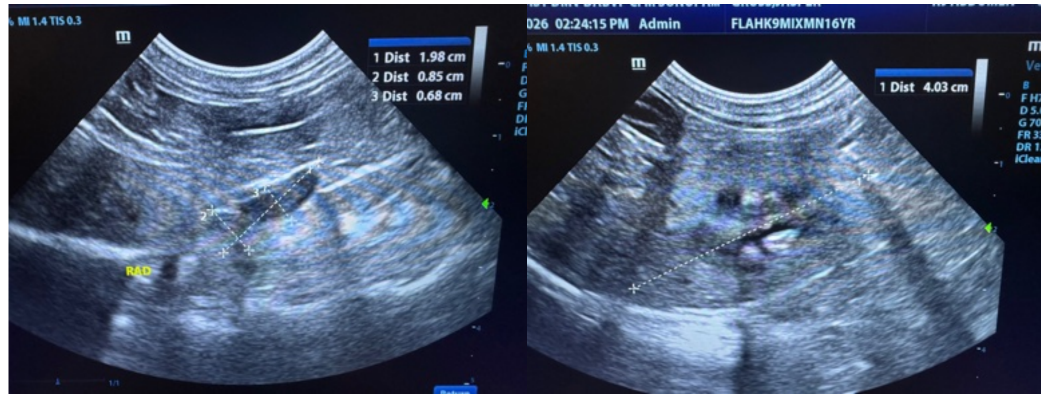

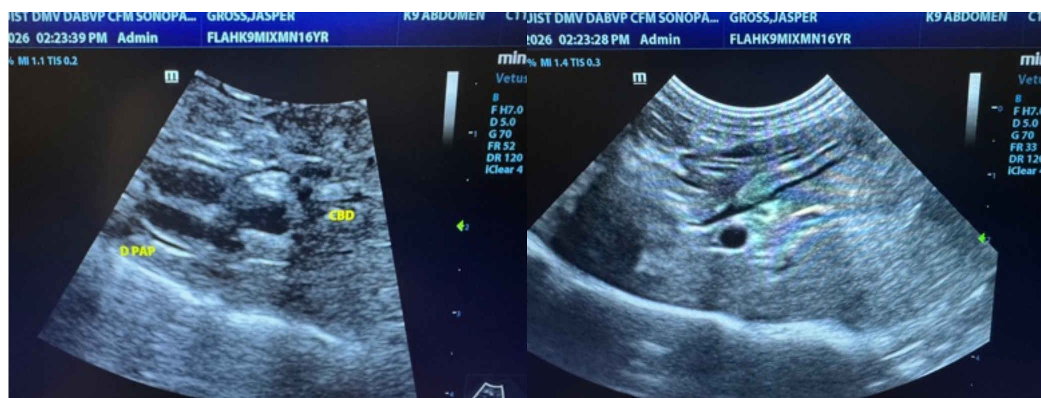

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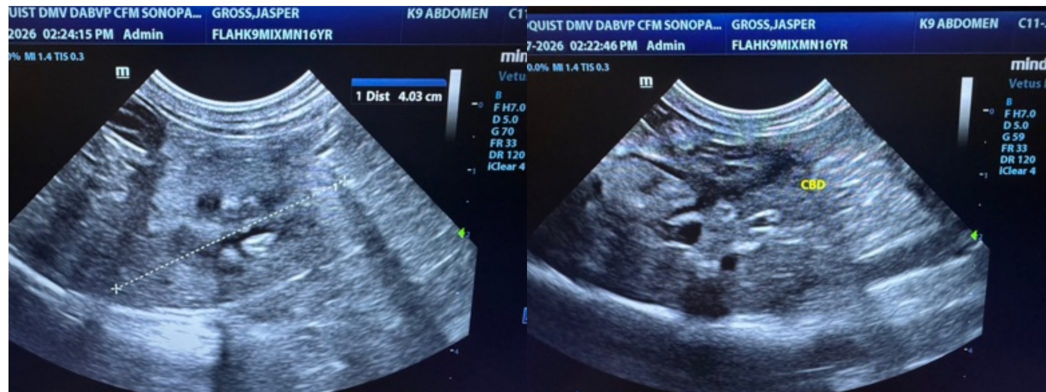

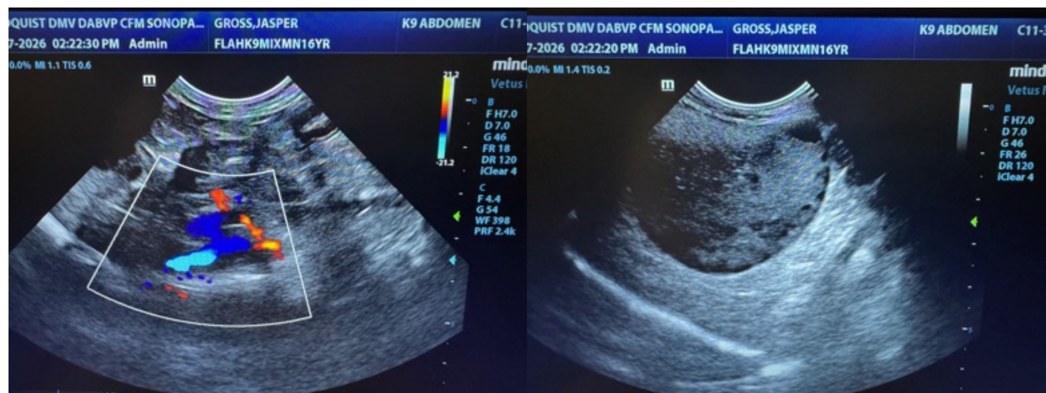

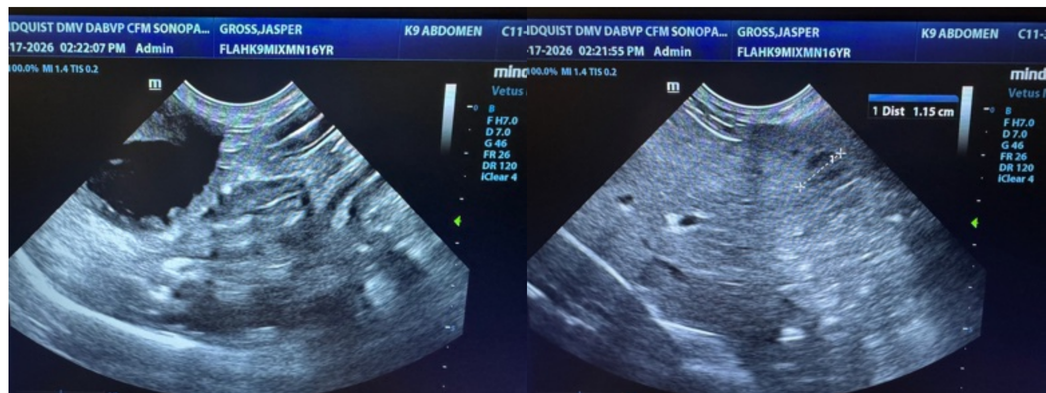

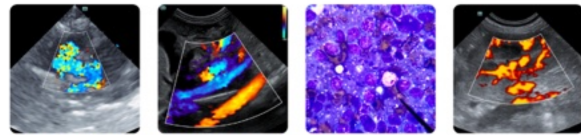

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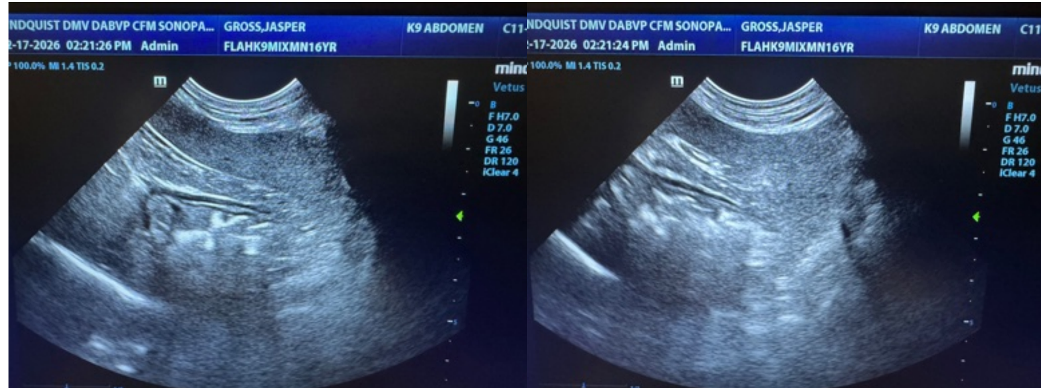

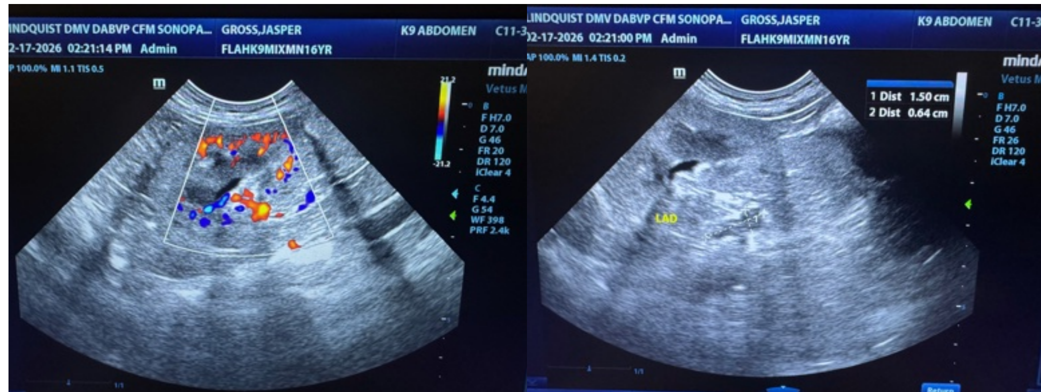

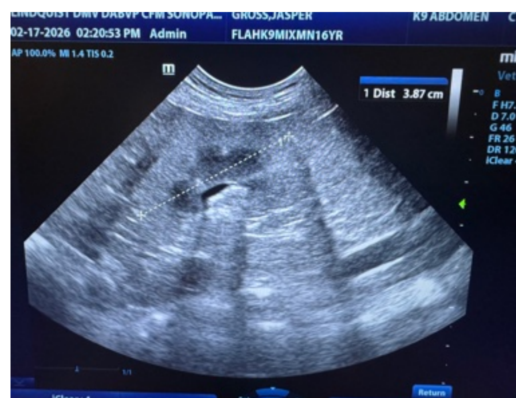

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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