



PATIENT

Gramps Coulse

SPECIES

Feline

BREED

DMH

SEX

Neutered Male

AGE

9 Years

WEIGHT

12 lb 12 oz

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Ebersole

HOSPITAL NAME

Scanvet

REFERRING VET

Dr. Barengo

INVOICE

33793

DATE

12/28/21

PRESENTING CLINICAL SIGNS

Abdominal discomfort, full appearing abdomen, laying in strange positions. Episodes of pain/lethargy. FNA of liver mass done.

Abnormal PE/Chem/CBC/UA Results: PE: BCS 6-7/9, BAR. RADS: Large cranial abdominal mass effect (liver, spleen or pancreas?). Discospondylosis. CBC/Chem (done pre-FNA): WNL except Glucose 484, TP 8.3, Alb 4.2.

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 were noted. Ureteral papillae were normal. The pelvic urethra was imaged 1.0 cm beyond the cystourethral junction.

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 4.38 cm. The left kidney measured 4.38 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 0.54 cm.

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 were noted.

Liver

The **liver** in this patient revealed a moderately complex, expansive microcystic mass measuring 10.17 cm x 4.22 cm. The mass deviated the diaphragm cranially. The mass occupied the left liver and deviated the gastric axis caudally. It extended to the right cranial liver and deviated the gallbladder dorsally. The mass. The mass was poorly vascularized. Other biliary cystadenoma type lesions noted in the caudate process. Some irregular lobar swelling noted in the right liver.

Gastrointestinal

The **gastrointestinal** presentation revealed mild uniform prominence of the gastric mucosa as well as areas of "ropey" small intestinal wall with slight disruption of the normal 1:3 muscularis/mucosal ratio. The intestinal submucosa was slightly irregular, thickened and hyperechoic suggestive of low grade, chronic disease. No concerning lymphadenopathy was visible. No evidence of obstruction was present. Chronic inflammatory bowel disease is likely with a low possibility of an early neoplastic event such as lymphoma. Full thickness tissue biopsies via open laparotomy, ideally guided by intraoperative



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ultrasound in order to obtain the most representative mural sample, would be necessary to rule out this possibility.

Pancreas

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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 subxyphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

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ULTRASONOGRAPHIC FINDINGS

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- Large hepatic mass (not overtly resectable) with other cystic nodules and hepatic remodeling – biliary carcinoma or possible expansive and extensive cystadenoma.
- Intestinal thickening
- Geriatric abdomen otherwise

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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The hepatic mass is most consistent with biliary carcinoma with possibility of biliary adenoma. However, it is likely too disorganized for simple adenoma. It does not appear resectable given the extent of the mass with cranial and right-sided extension. Core biopsy is usually necessary for definitive diagnosis in this type of presentation. FNA may provide for some cursory evaluation. However, typically, this type of mass necessitates resection, which is not possible given the extent and position of the mass.

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The good news is that this type of mass is typically slow growing, and there is some viable-appearing parenchyma throughout much of the right liver. Ultrasound guided FNA performed without complication. Supportive care warranted. Bile acid profile could be considered to assess any functional issues with the liver. If bile acids are elevated, then the clinical signs may be deriving from the hepatic mass. However, completely separate pathology such as orthopedic pain and referred back pain may be playing a role.

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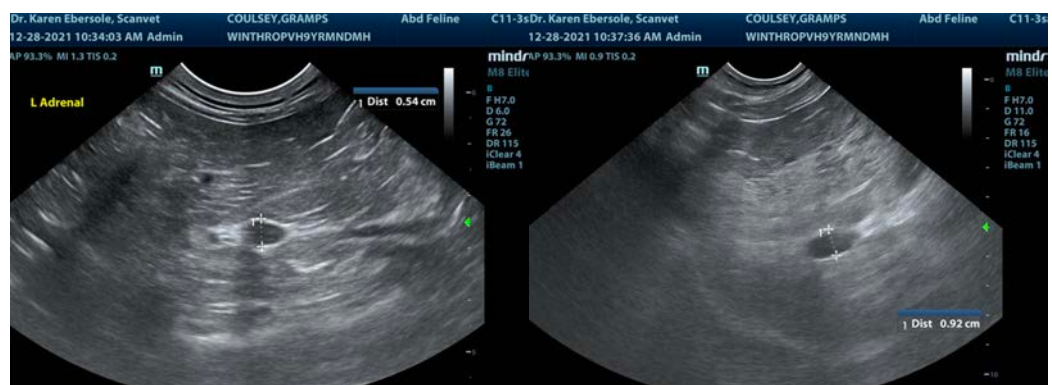
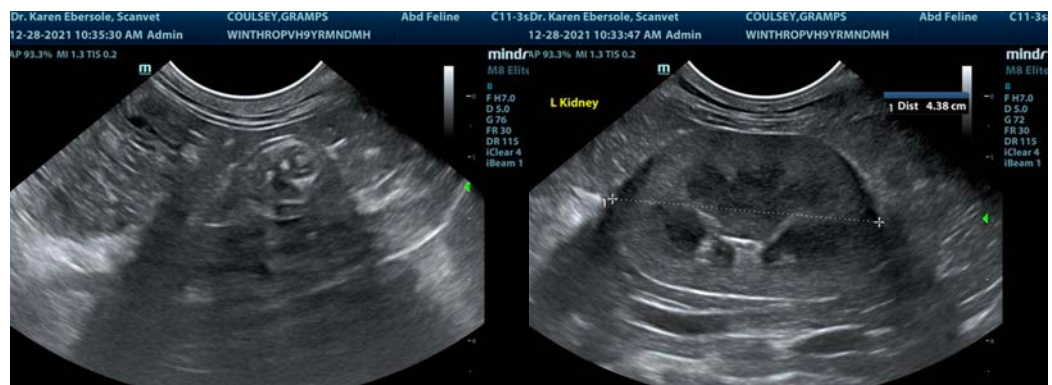
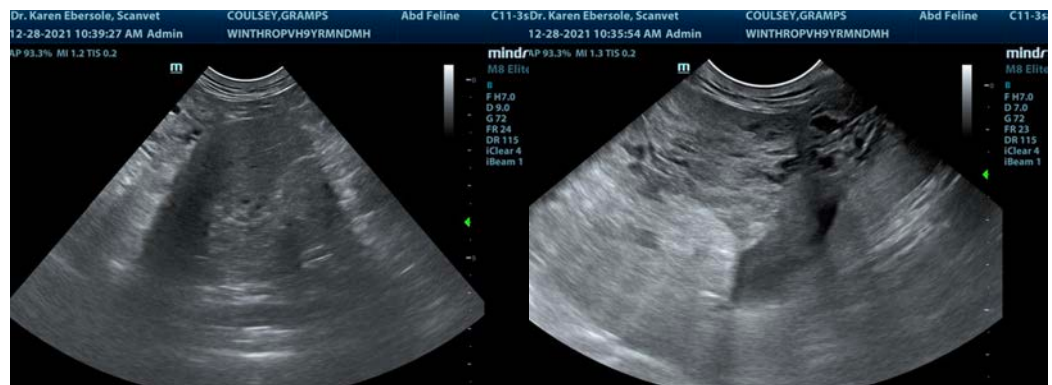
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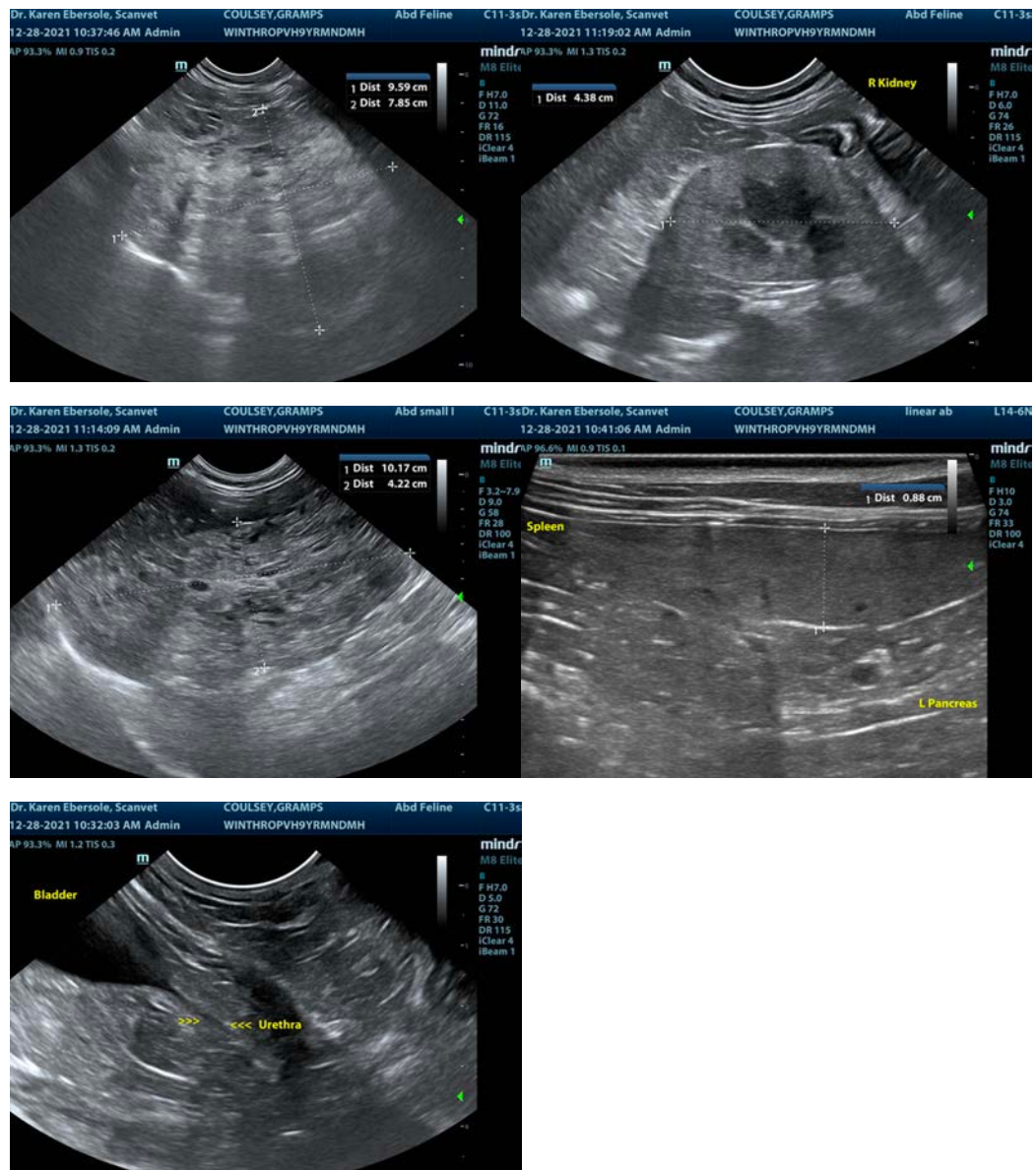
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
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