



**PATIENT**

Ella Corsi

**SPECIES**

Canine

**BREED**

Pug

**SEX**

Spayed Female

**AGE**

11 years

**WEIGHT**

15 lbs

**INTERPRETED BY**

Tam Mengine, DVM,  
DABVP (canine/feline  
practice)

**IMAGING PERFORMED BY**

Dr. Mengine

**HOSPITAL NAME**

Stoney Creek VH

**REFERRING VET**

Dr. Mengine

**INVOICE**

31676

**DATE**

7/14/22

**PRESENTING CLINICAL SIGNS**

Presented 6/28 with 3 day history of vomiting and diarrhea. On labwork, CBC wnl, Chem - ALT 156, ALP 7540, TBili 10.4, Spec CPL 419 (normal <200), U/A wnl. Last chem in 2021 all within normal limits. Treated empirically for cholangiohepatitis & pancreatitis with antibiotics, denamarin and antiemetics. Clinical signs rapidly resolved, but recheck labs today - ALT 2096, ALP 6009, TBili 6.7, Globs 5.6

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is moderately distended with anechoic urine, and there is a mild amount of sandy sediment present. The ureteral papillae, trigone and pelvic urethra are of normal appearance, and the ureters are not visible (normal). No masses, calculi or mucosal irregularities are noted.

Both kidneys are hyperechoic and exhibit moderately decreased cortico-medullary differentiation. There is no evidence of nephrolithiasis, mineralization, pyelectasia or hydronephrosis. The proximal ureter is not visible (normal). The left kidney is (4.0) cm in length. The right kidney is (4.1) cm in length.

**Adrenal Glands**

The adrenal glands are both identified in their normal locations. They are normal in size and shape with appropriate parenchymal echogenicity and normal phrenic vasculature. The left adrenal gland height is (4.4) mm at the caudal pole and (5.9) mm at the cranial pole. The right adrenal gland has a nodule at the cranial pole measuring 9.1 mm, but is hyperechoic. The caudal pole measures 3.3 mm. There is no apparent vascular invasion and both adrenal glands have appropriate parenchymal echogenicity and normal phrenic vasculature.

**Spleen**

The spleen is of appropriate size and has a normal, homogenous parenchyma with a smooth, continuous capsular surface. There is a 9.0 x 7.0 mm, hypoechoic nodule noted near the head of the spleen. The splenic vasculature is normal with no evidence of congestion or thrombosis, and blood flow through the splenic hilus appears normal.

**Liver**

The liver is subjectively enlarged with a coarse echotexture and dilated intrahepatic bile ducts. The portal and hepatic vasculature are of normal size and appearance with no evidence of congestion or thrombosis.

The gallbladder is moderately distended with anechoic contents. The wall is thin and continuous with no focal lesions. The cystic is dilated up to 0.51 cm and tortuous with a 0.2 cm hyperechoic foci approximately 1.5 cm distal to the gallbladder.



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***Gastrointestinal***

The stomach is moderately distended with normal looking ingesta. The gastric wall is (0.27) cm with normal deviations due to rugal folds, and exhibits appropriate wall layering. The pylorus is of normal appearance.

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Canine

The visualized portions of the duodenum, jejunum, and ileum are of normal thickness with intact wall layering that exhibits the appropriate 1:3 muscularis to mucosa ratio. The duodenal wall measures (0.43) cm and is corrugated throughout its length. The jejunal wall measures up to (up to 0.38) cm. . Intestinal motility appears normal.

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The colonic wall is mildly thickened ( 0.2) cm, with intact wall layering. The ileocecal junction is visualized and appears normal.

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***Pancreas***

The entire pancreas is swollen and hypoechoic, surrounded by hyperechoic mesenteric fat. The pancreatic duct is mildly dilated.

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***Free Abdomen***

There is no evidence of free fluid within the peritoneal cavity. The omentum and intra-abdominal fat are of appropriate echogenicity. Enlarged abdominal lymph nodes are not observed. The aortic trifurcation has normal blood flow with no evidence of thrombosis.

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**ULTRASONOGRAPHIC FINDINGS**

**PRIMARY FINDINGS:**

Cystic duct obstruction.

Acute pancreatitis.

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**SECONDARY FINDINGS:**

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Hypoechoic splenic nodule and age related renal changes.

Right adrenal nodule.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Surgical intervention is recommended for the gallbladder to relieve the obstruction.

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FNA of the spleen and core liver biopsy while the patient is sedated along with following the common bile duct to assess whether it is > 4 mm is all recommended.

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The changes in the pancreas are consistent with acute pancreatitis. Concurrent pancreatic neoplasia, while less likely, cannot be ruled out. Recommendations include:



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- ❖ a cPLI level is recommended for confirmation and monitoring purposes.
- ❖ supportive care including fluid therapy, anti-emetics, analgesics, appetite stimulants (if needed) are warranted.
- ❖ a highly digestible, low fat intestinal diet should be encouraged as soon as vomiting can be controlled.
- ❖ complications such as hypoalbuminemia, hyperglycemia and hypokalemia should be managed as they arise.
- ❖ if the patient is not responding to medical management, fine needle aspiration with a 25G needle for cytology could be considered after first checking a coagulation profile.

The changes in the kidneys are consistent with chronic renal disease. Recommendations include:

- ❖ a CBC, chemistry panel, urinalysis, urine protein creatinine ratio and blood pressure measurement are recommended
- ❖ urine culture should also be considered, particularly if urine sediment is active
- ❖ dietary and supportive care recommendations can be made, based on the staging of the disease as outlined in the IRIS guidelines

Screening for Cushing's disease is recommended if symptoms are present and monitoring for change in size is recommended in 1-2 months.





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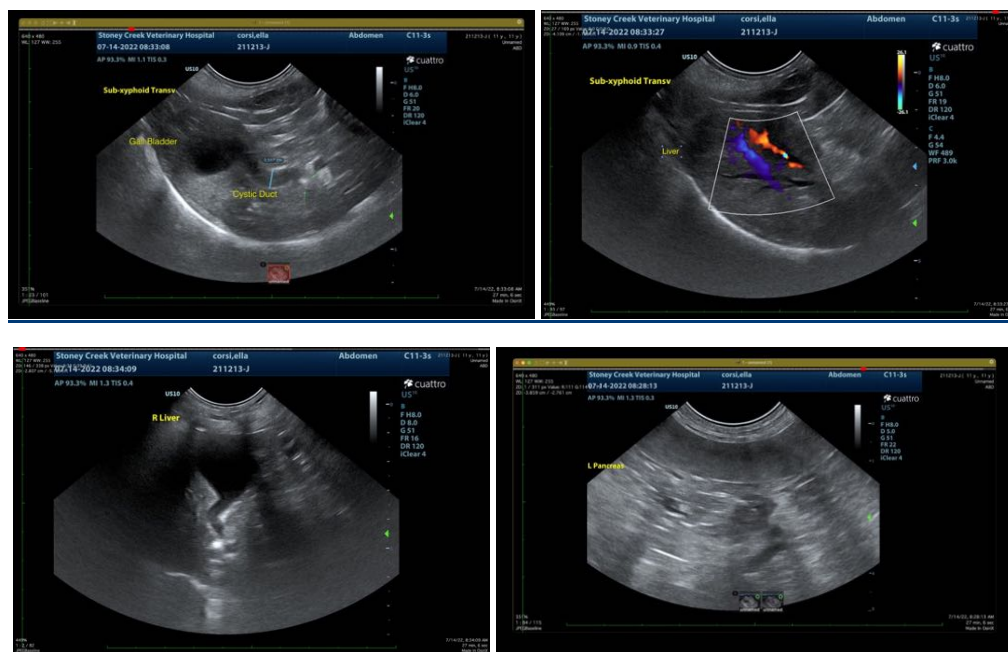
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Tam Mengine, DVM, DABVP (canine/feline practice)**

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