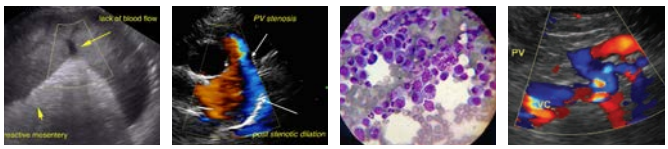
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Gwen Lopez

SPECIES

Canine

BREED

Yorkie

SEX

Spayed Female

AGE

7 Years

WEIGHT

8 Pounds

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY

Dr. Isermann

HOSPITAL NAME

Animal Emergency Hospital Volusia

REFERRING VET

Dr. Van Nieuwal

INVOICE

45373

DATE

2/22/23

PRESENTING CLINICAL SIGNS

Coughing for two days and is progressively getting worse. Owner noticed labored breathing today. Only change to routine was owner gave patient a porkchop yesterday. Only dog in the household. No known trauma, no prior health concern.

Abnormal PE/Chem/CBC/UA Results: 3 Whole Body with Thorax and Abdomen dated 2/21/23 There is an increase in opacity within the thorax which silhouettes with the cardiac silhouette and diaphragm. Fissure lines are evident in each hemithorax. The lung lobes are retracted from the thoracic wall. The pulmonary parenchyma is characterized by a mild increase in opacity. Underinflation likely contributes to this appearance. Accurate assessment of heart size cannot be made. Diaphragmatic integrity cannot be documented however the relative position of the cranial abdominal structures is appropriate. There is decreased serosal detail. The abdomen has a full and patchy appearance area the stomach is distended with a large amount of gas and also contains granular material and some fluid. The small intestine has similar contents. The gas containing small intestinal segments are not overdistended. There is gas and granular material in the colon. Based on the position of the stomach, the liver size is appropriate. The spleen and urinary system cannot be accurately assessed. Conclusion Pleural effusion. The presence of enlarged lymph nodes or a mass cannot be excluded. Peritoneal effusion and/or peritonitis. The presence of enlarged lymph nodes or a mass cannot be excluded. Probable aerophagia. Recommendations Diagnostic and therapeutic thoracentesis are recommended. Additional images following thoracentesis may provide additional information. Abdominocentesis with analysis is recommended. A complete abdominal ultrasound may be needed. Complete blood work and urinalysis are recommended. Read By: Valerie M. Sadler DVM, DACVR Calcium - 6.5 Total Protein- 4 Albumin - 1.9 Cholesterol- 78 GGT - 20 Total Bilirubin - 0.8 PH - 7.333 calcium iodized - 1 HCT - 65 NEU - 86.7 LYM - 11.3 MONO - 1.8 EOS- 0.01 EOS%- 0.1 RBC - 9.89 HGB - 24.7 HCT % - 66.4

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney has a normal shape and size (3.1 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (2.82 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.47 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. No evidence of a mass effect is visualized.

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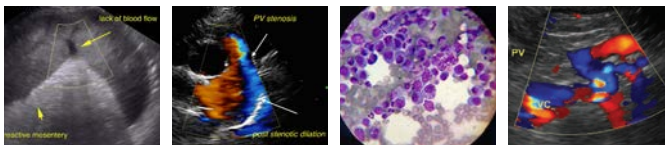

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Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gallbladder lumen is moderately distended. The wall of the gall bladder is mildly thickened (0.42 cm) and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains a large amount of shadowing ingesta. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall thickness is moderately increased. Bowel loops follow a typical curvilinear path. Some areas have reduced detail of wall layering. Duodenum wall measures 0.45 cm. Jejunum wall measures 0.34 cm. There is mucosal fogging and speckling evident. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

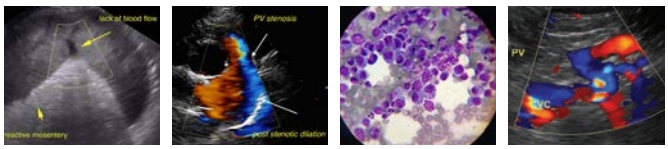
The pancreas is large and hypoechoic to surrounding mesentery, particularly caudal to the stomach. There is no evidence of nodules or cystic lesions. There is evidence of regional mesenteric inflammation. Consistent with mild pancreatitis.

Free Abdomen

There is a small amount of free abdominal fluid. No lymphadenopathy. The omentum appears diffusely hyperechoic.

PRIMARY FINDINGS

- Hypoechoic, prominent pancreas with surrounding hyperechoic mesentery, particularly caudal to the stomach – The pancreatic changes are most consistent with mild pancreatitis/pancreatic inflammation. Recommend fPLI testing and continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving.
- Thickened small intestine with mucosal fogging and speckling – The bowel wall thickening could be consistent with inflammation, edema, or infiltrative neoplasia.
- Free abdominal fluid and hyperechoic mesentery



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SECONDARY FINDINGS

- Mild gallbladder wall thickening – This is likely most consistent with edema.
- Large shadowing ingesta within the gastric lumen – Correlate with the feeding history and abdominal radiographs. If the patient was adequately fasted consider such differentials as delayed gastric emptying, a partial outflow tract obstruction (none seen) or ingested foreign material.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The free abdominal fluid, low albumin, and thickened small bowel with mucosal fogging and speckling is concerning for possible protein losing enteropathy. In general, the most common differentials for this would be severe IBD, lymphangiectasia, or less likely neoplastic change. Consider the following:

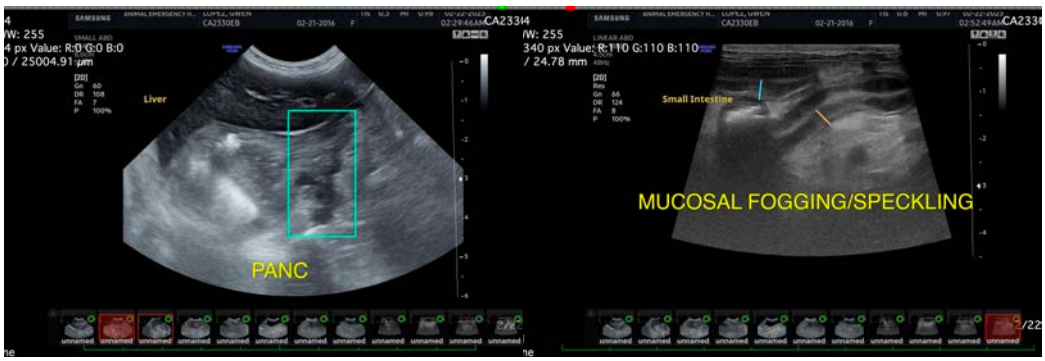
- Recommend an ultra-low-fat diet. If this can be a novel protein or hydrolyzed protein prescription diet, that would be ideal.
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc.. to further evaluate for pancreatic/small intestinal disease.
- Recommend chronic pre- and probiotic therapy.
- Once stabilized, consider obtaining endoscopic GI biopsies.

A urine protein to creatine ratio, urinalysis, and liver function test is recommended to rule out additional protein loss or lack of production due to concurrent disease in these areas.

Recommend 3-view thoracic radiographs and thoracocentesis if there is a significant amount of pleural effusion present.

It's possible that this has become clinical after the dietary indiscretion reported. A high-fat meal can cause significant findings, and there is concern for possible pancreatic inflammation as well. Correlate these findings with a quantitative cPLI level (this is included on the GI panel), and consider treatment for pancreatitis.

Continued monitoring of the gastric ingesta is warranted to ensure it passes and there is no evidence of an obstruction.



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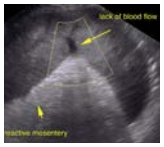
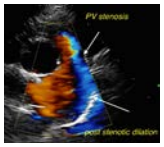
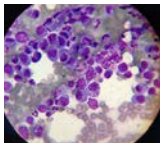
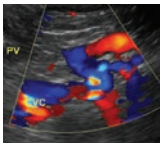

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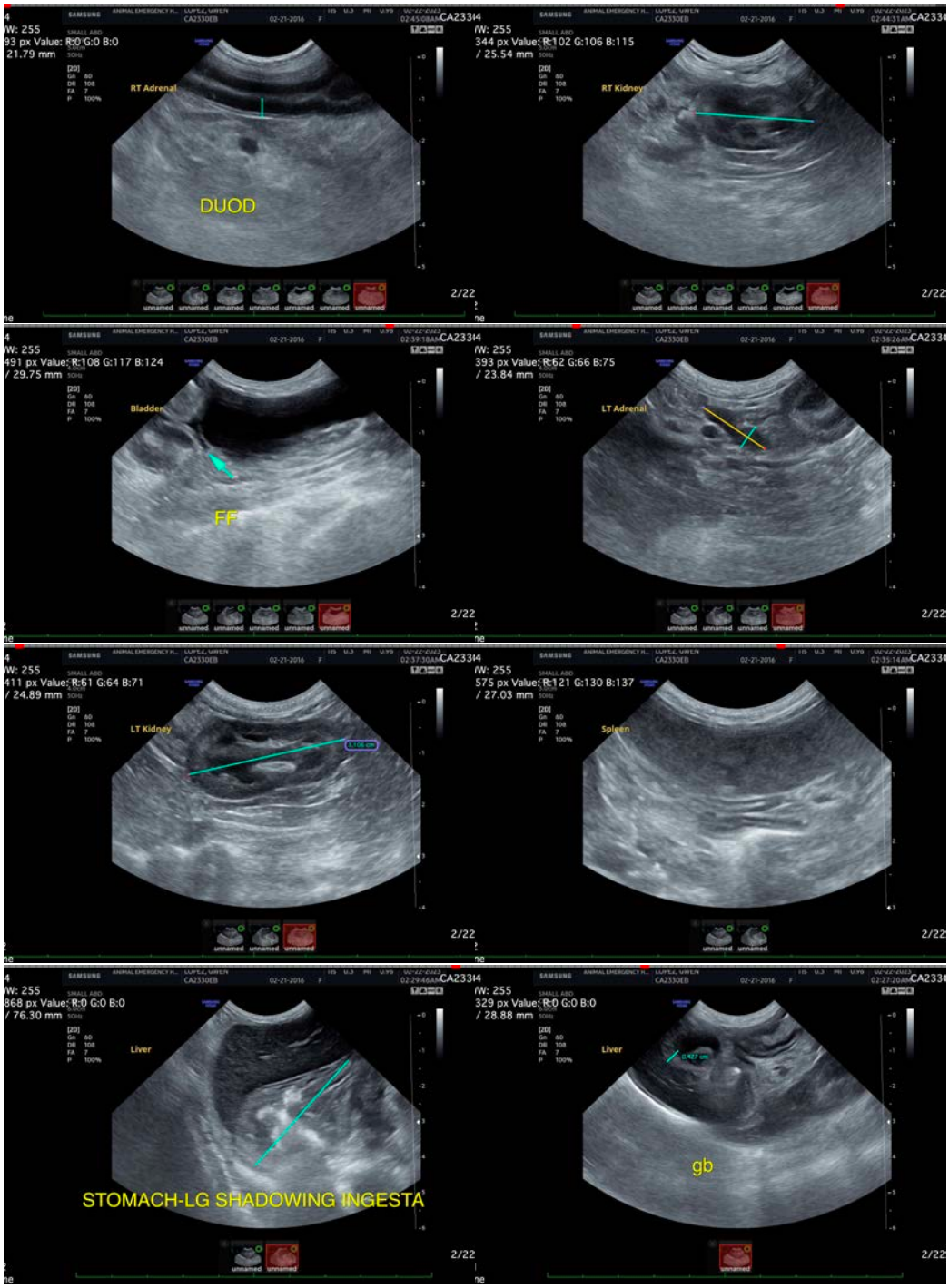

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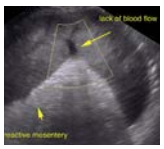
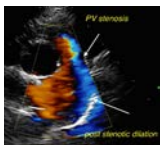
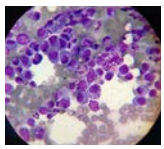
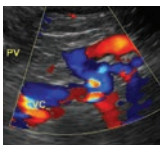

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

kathleen.sennello@sonopath.com