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Clinical Sonography & Telecytology
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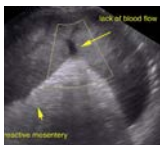
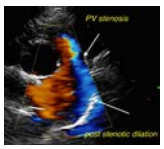
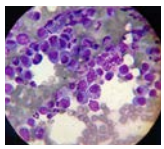
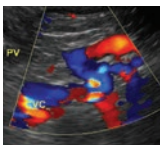





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Bella Torquemada

SPECIES

Canine

BREED

Mixed

SEX

Spayed Female

AGE

8 Years

WEIGHT

19.4 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Desen Ertunc

HOSPITAL NAME

Healing Spirit

REFERRING VET

Dr. Desen Ertunc

INVOICE

41286

DATE

9/13/22

PRESENTING CLINICAL SIGNS

Chronic history of intermittent vomiting, anorexia and/or diarrhea/constipation self-limiting within several days. Recent onset vomiting, vocalizing when picked up and anorexia since yesterday. Normal BM, no history of pica.

Abnormal PE/Chem/CBC/UA Results: PE- T= 103.2. in AM, 100.9 in PM Reactive to cervical ROM Not overtly sensitive/tensing with abdominal palpation CBC: MCHC= 29.8 (19.5-24.5), Lym= 0.72 (1-4.8), otherwise WNL (WBC+ 6 (6-17)) Chem: ALP= 359 (20-150), ALT= 1733 (20-150), Glob= 1.9 (2.3-5.2), BA=<1 (0-25), otherwise NSF cPL= 741 (>400 consistent with pancreatitis

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 (4.1 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 (4.7 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 right adrenal gland is normal in size measuring 0.40 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

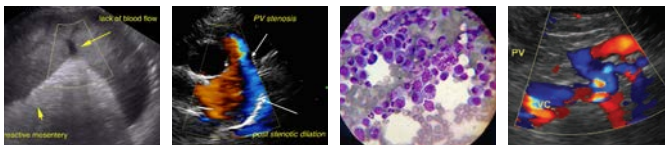
The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. 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 not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal



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The stomach contains minimal luminal contents. 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 appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Duodenum wall measures 0.35 cm. Jejunum wall measures 0.31 cm. There is mild mucosal speckling visualized associated with the duodenum. Visualized peristalsis appears appropriate. There are a couple focal areas of small intestine imaged that appear to have mild fluid dilation and lack of progressive motility. No evidence of ingested foreign material is associated with these images. Findings are suggestive of focal ileus.

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 prominent and hypoechoic as compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation.

There is a hypoechoic structure measuring 1.5 cm visualized just dorsal to the stomach and in the region between the stomach and the liver on the transverse view. This could be consistent with an omental cyst, a hepatic cyst, or pancreatic lesion. There is minimal surrounding inflammation.

ULTRASONOGRAPHIC FINDINGS

- Prominent, hypoechoic pancreas – The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- Heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Mild mucosal speckling visualized associated with the duodenum – Bright mucosal speckling has been postulated to represent dilated lacteals or focal accumulations of mucus, cellular debris, etc.. in the mucosal crypts.
- Focal areas of fluid dilated bowel with lack of progressive motility – Findings are most suggestive of areas of focal ileus, although an obstruction cannot be definitively ruled (none observed).
- Hypoechoic cystic structure visualized in the cranial abdomen – This appears most consistent with either an omental cyst, a caudal hepatic cyst, or a pancreatic cyst. It does not appear overtly inflamed and could be an incidental finding.

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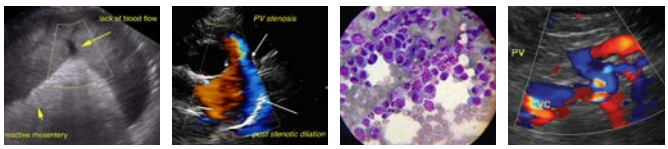

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

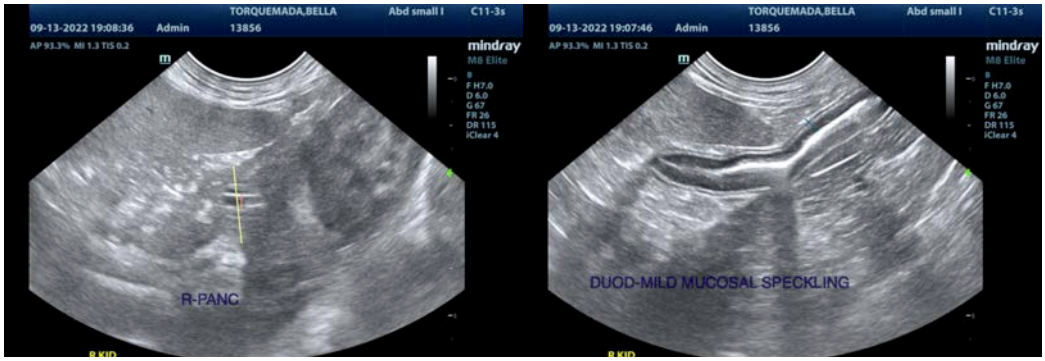
The pancreas is visible on today's exam but appears relatively quiet. There are some areas of small intestine that appear somewhat fluid dilated and do not appear to have significant progressive motility, most consistent with ileus. No evidence of ingested foreign material is observed but correlate with abdominal radiographs to look for any evidence of an obstructive pattern. Additionally, there is some mucosal speckling visualized associated with the duodenum. This can be seen with primary gastrointestinal disease. Consider further workup and treatment for primary gastrointestinal disease including a novel protein/hydrolyzed protein prescription diet, chronic probiotic therapy, and consider a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to obtain more information regarding the pancreas and small intestine.

Additionally, the liver enzymes (particularly the ALT) is significantly elevated. This could be contributing to nausea and diarrhea. No focal lesions are visualized associated with the liver, and the gallbladder appears normal. Consider the following:

The ultrasonographic changes in the liver were relatively mild. Unfortunately, the sonographic changes do not always reflect the severity or cause of the hepatopathy. The scan today supports a primary hepatopathy as no severe biliary changes were observed.

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc...
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history
- If not already done, consider pre and post prandial bile acids to evaluate liver function
- Consider Fine needle aspirate if round cell neoplasia is on your differentia list (25 g needle, normal coags)
- If no response to supportive care (Denamarin, fluids, antibiotics, +/- ursodiol etc.) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

The significant of the cystic structure visualized near the stomach in the abdomen is uncertain. I suspect it is an incidental finding but recommend continued monitoring.



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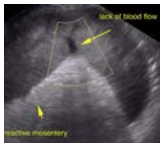
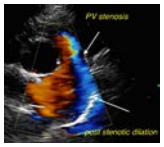
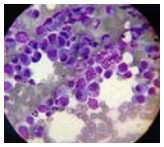
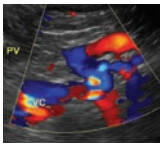

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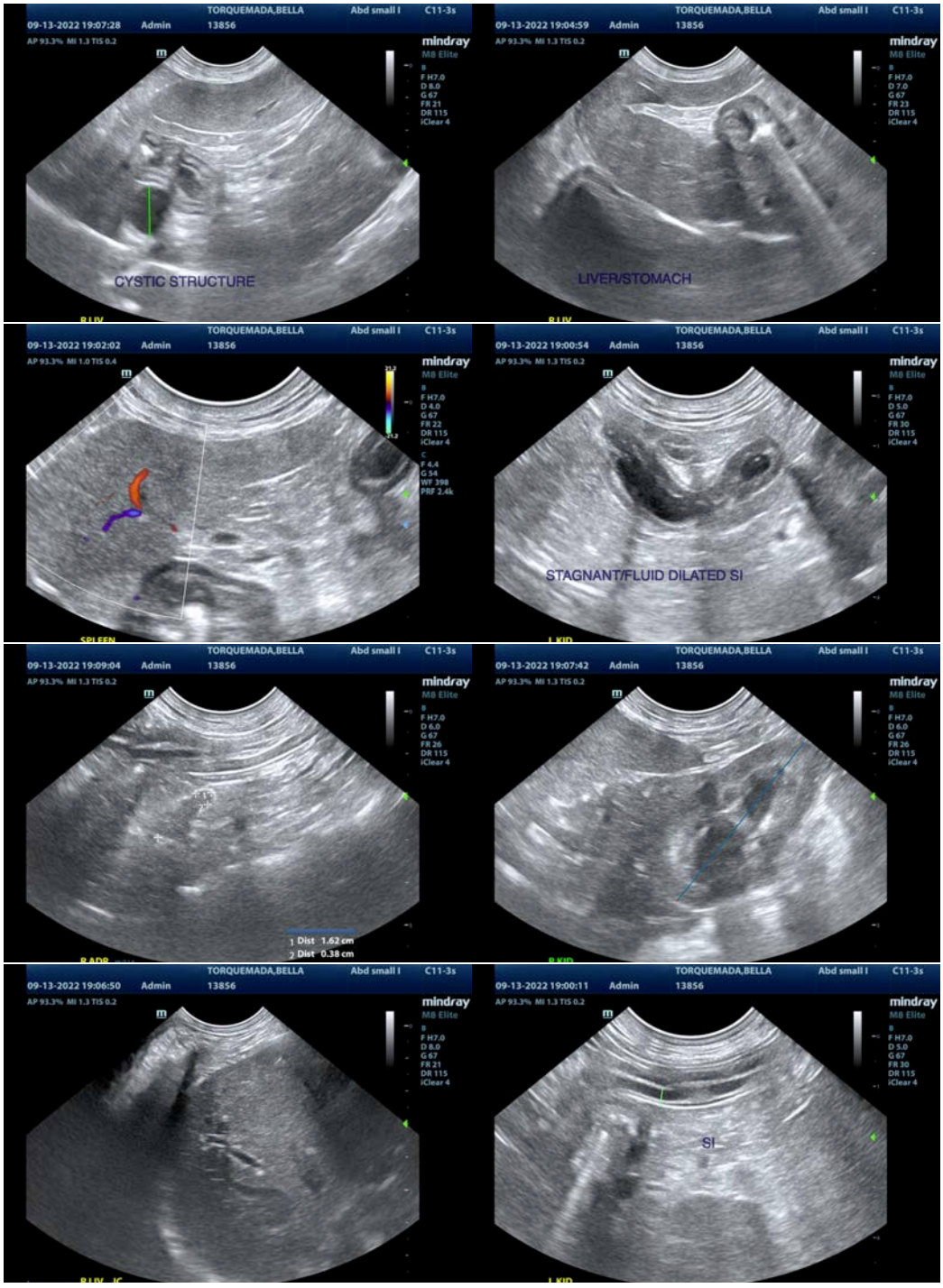

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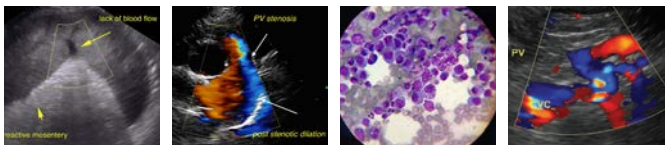

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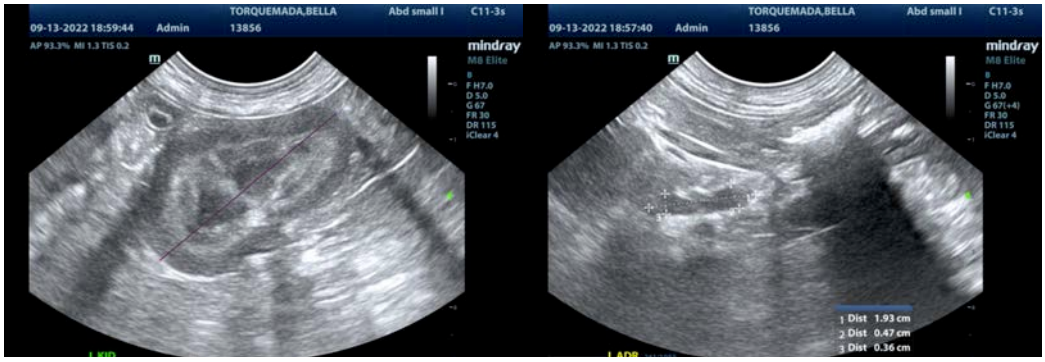

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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