

**DATE PRESENTING CLINICAL SIGNS**

3/1/22

Presenting Complaint: Vomiting With Blood. Diarrhea. In Pain/Discomfort.

PATIENT

Elsie Pagano

History: Date: 02-26-2022 Notes: Has history of "sensitive stomach" and will have episodes (usually 24-48 hrs at most) where she doesn't eat; sometimes also has V+/D+. Last summer had an episode where she didn't eat for almost 6 days; was treated with antibiotics then probiotics and recovered. Hasn't eaten for past 2 days; has vomited a few times and it now is bloody. Has soft stool that is black in color.

SPECIES

Assessment: r/o pancreatitis, gastroenteritis, anemia, liver disease, kidney disease, neoplasia

Canine

Current Medications: Metronidazole Tablets 50mg, Gabapentin Tablets 25mg, Maropitant Citrate (Cerenia) Tablets 16mg

BREED

Min Pin

Lab Results: Lab work- BUN was initially increased but returned to normal on 24 hr recheck. Amylase was increased.

SEX

Spayed Female

Radiographs: Xray Abdomen 2 View: some irregular gas patterns in SI but not dilated. Stomach not dilated. Heart slightly tall on lateral view; does not appear significantly enlarged on VD view. On lateral view, opaque overlapping area of chest (unsure of significance); not evident on VD view.

AGE

2006

Xray: fluidy bowels, but not obstructive, stomach empty.

WEIGHT

8 Pounds

Date of Previous IntraPet Ultrasound:

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

INTERPRETED BY

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

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.

IMAGING PERFORMED BY

Rachel Brilhart RDMS

The left kidney has a normal shape and size (3.68) with mild pyelectasia. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

HOSPITAL NAME

Animal Emergency Hospital

The right kidney has a normal shape and size (3.8 cm) with mild pyelectasia at 0.21 cm. Overall echogenicity is slightly hyperechoic with mildly reduced corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

REFERRING VET

Dr. Willer

Adrenal Glands

The left adrenal gland is large in size measuring 0.67 cm at the caudal pole, 1.03 cm at the caudal pole, and 2.0 cm in length. It is observed in its normal position cranial to the left renal artery. It is relatively normal in shape, but the caudal pole is significantly enlarged. There is no obvious evidence of vascular invasion. Findings are most consistent with a left-sided adrenal nodules.

INVOICE

35785

The right adrenal gland is normal in size measuring 0.67 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 homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

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. Although no masses or focal lesions are observed, the gastric wall does appear subjectively prominent measuring at 0.42 cm in this small dog.

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 measured 0.42 cm. Jejunum wall measured 0.31 cm, 0.23 cm, 0.20 cm. There is very mild mucosal speckling observed. 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 prominent and mottled 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. The omentum is of normal uniform echogenicity.

PRIMARY FINDINGS

- Enlarged caudal pole of the left adrenal gland – Left adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Prominent, mottled pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.
- Subjectively prominent stomach wall – While this is not officially thickened, and wall layering appears intact, it is prominent in this small dog. Findings are most consistent with gastritis.

- Mildly thickened small intestine with mild mucosal speckling – The mild small intestinal wall changes may be a normal variant in this patient or could be consistent with an inflammatory process (e.g., inflammatory bowel disease). Bright mucosal speckling has been proposed to represent dilated lacteals or focal accumulation of mucus, cellular debris etc.. in the mucosal crypts of the small intestine.

SECONDARY FINDINGS

- Decreased corticomedullary distinction in both kidneys with mild pyelectasia – The bilateral renal findings are consistent with age-related change. Pyelectasia of the left/right kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Moderate gallbladder debris – The gastric distension and hypomotility could be consistent with focal ileus or a proximal duodenal obstruction.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

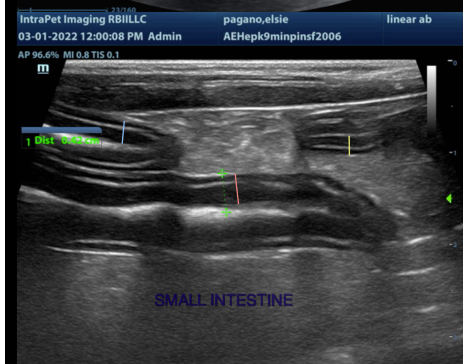
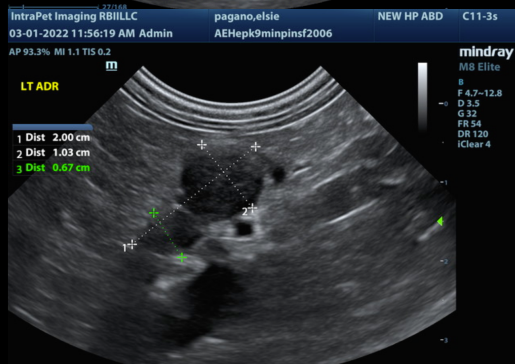
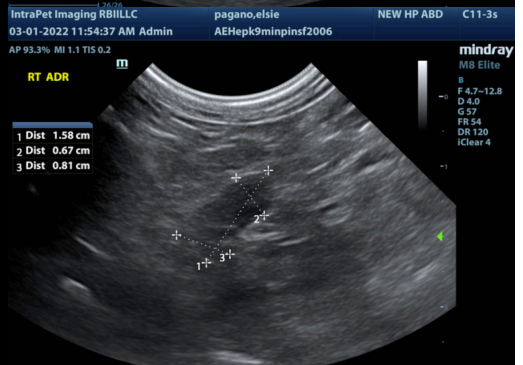
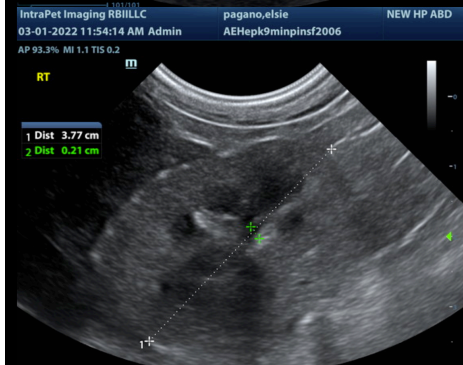
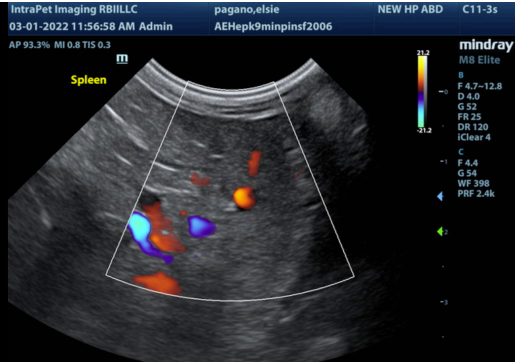
No severe focal lesions are observed associated with the GI tract. There is some mild wall thickening with mucosal speckling, which can most commonly be seen with chronic inflammatory type changes. Additionally, the pancreas is somewhat prominent.

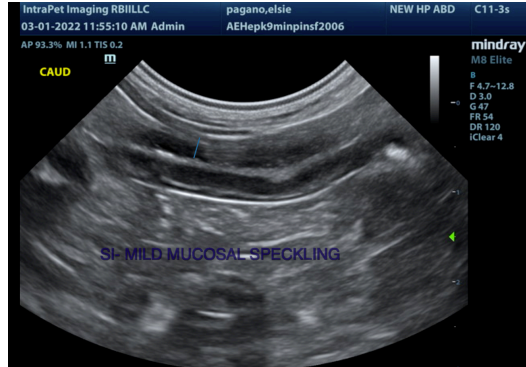
- Consider a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to further evaluate the pancreatic and small intestinal changes observed.
- Consider a novel protein/hydrolyzed protein prescription diet.
- Recommend chronic probiotic therapy.
- Recommend symptomatic treatment for pancreatitis with anti-nausea medications, pain medications, etc.
- If GI signs persist, consider obtaining GI biopsies.

The left adrenal gland is enlarged at the caudal pole. It appears fairly regular, but is not normal. These lesions can be benign or malignant, and can secrete hormones or be non-active. Options moving forward include:

- If signs of cushings are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)
- If adrenal dependent cushings is suspected and supported by adrenal function testing consider medical therapy with lysodren or trilostane or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- If no symptoms of cushings are present, consider either referral for surgery or continued monitoring with ultrasound (in 3-4 months).
- Many of these nodules can be benign and incidental in nature, unfortunately that is difficult to determine with a single ultrasound. Continued monitoring with ultrasound is warranted, as occasionally these can be aggressive lesions, grow quickly, and be invasive.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.





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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