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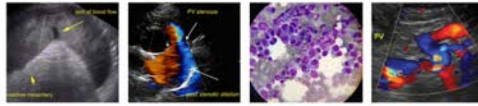


SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT

Brownie Nickerson

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

11 Years 10 Months

WEIGHT

12 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Pamela Harrigan, RDCS

HOSPITAL NAME

VCA Hanson

REFERRING VET

Dr. Joanne Oscar

INVOICE

43771

DATE

7/5/23

PRESENTING CLINICAL SIGNS

Vomiting for last few years unless he takes Cerenia q 48 hours. O has had on Cerenia every other day for about 1 year. Cat would not eat the RCVD Hydrolyzed dry or canned Diet not the z/d canned. No signs of kidney disease, diabetes, or thyroid disease on VS/CBC/T4/UA. R/O inflammatory bowel disease vs. gastrointestinal lymphoma vs. protein losing enteropathy vs. small intestinal bacterial overgrowth vs. B12 deficiency vs pancreatitis.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with mild primarily suspended echogenic debris present. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, or calculi. Echogenic debris of this type can be associated with small crystals, cellular debris and proteinaceous debris. In the ventral apical portion of the urinary bladder, the debris appears almost rounded and cystic, making it difficult to differentiate whether this is suspended debris in an atypical formation or if there is cystic tissue in this region. Recommend urinalysis and culture. If urinary tract symptoms are present, consider reevaluation with power doppler, looking for any suggestion that this is soft tissue.

The left kidney has a normal shape and size (4.29 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 (4.44 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 0.34 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 0.29 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.

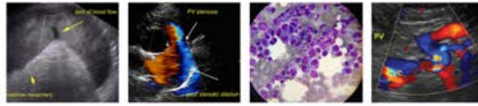
Spleen

The spleen is subjectively normal in size (0.86 cm), 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 appears slightly hyperechoic and prominent, measuring 0.22 cm, with a smooth mucosal surface. is a moderate amount



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of non-organized echogenic debris. The proximal bile duct appears slightly tortuous and prominent measuring at 0.24 cm. No evidence of an obstruction is visualized.

Gastrointestinal

The stomach contains a moderate to large amount of shadowing ingesta. It measures at a normal thickness of <0.36cm 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 relatively uniform diameter with minimal to mild fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measures 0.31 cm. Jejunum wall measures 0.27 cm. Visualized peristalsis appears appropriate. The duodenum appears mildly fluid dilated.

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 right limb of 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

- Echogenic debris in the urinary bladder – The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus. Some of the accumulated echogenic debris is difficult to differentiate from hypoechoic tissue. Recommend continued monitoring/reevaluation, urinalysis and culture.

- Mildly thickened gallbladder wall with a prominent bile duct – Correlate with lab work. This could be incidental or indicative of mild cholecystitis.

- Shadowing ingesta visualized 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.

SECONDARY FINDINGS

- Prominent, mildly mottled right limb of the pancreas – The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

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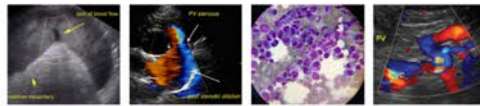

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is shadowing material visualized within the gastric lumen. This could represent shadowing ingesta, kibble, etc. If the patient was adequately fasted, consider the possibility of ingested foreign material, hair, etc. If this is the case, consider continued monitoring as NPO to see if the stomach empties, as this could be consistent with delayed gastric emptying, partial outflow tract obstruction (none is observed), etc.

The gallbladder wall is slightly prominent as well as the bile duct. These changes are likely incidental, but if there are current elevations in liver enzymes, consider possible mild cholecystitis.

No focal lesions are visualized associated with the gastrointestinal tract (other than the shadowing material in the stomach) to explain the chronic vomiting reported. If metabolic disease is unlikely based on lab work findings and there is no evidence of retained foreign material in the stomach after adequate fasting, then consider the possibility of a primary enteropathy. Unfortunately, these cannot be definitively diagnosed with ultrasound alone.

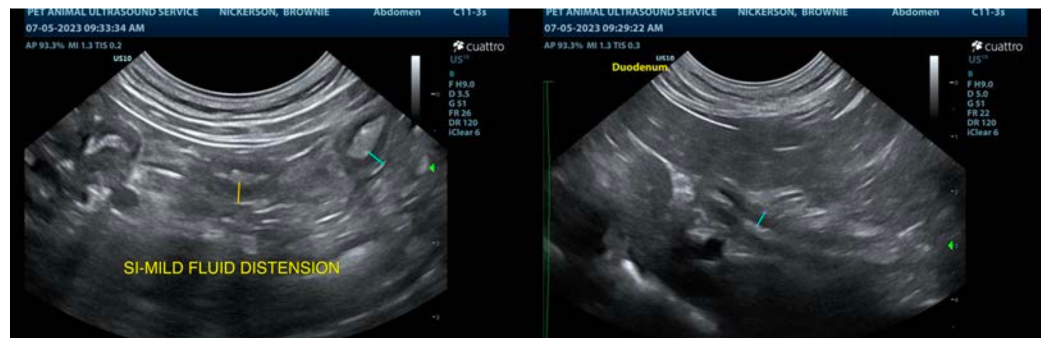
Consider such differentials as food allergy/dietary intolerance, GI parasitism, chronic pancreatitis, IBD and less likely neoplasia, etc.. .

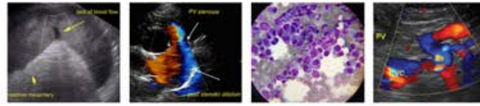
- Consider a novel protein/hydrolyzed protein diet (exclusively at least 4-6 weeks). If the patient will not willingly eat a hypoallergenic diet, consider consultation with a veterinary nutritionist to formulate a homemade, nutritionally balanced novel protein diet.
- Consider a GI panel to Texas A&M for evaluation of B12 levels, folate, PLI/TLI etc.. to further evaluate for pancreatic/small intestinal disease.
- Recommend chronic probiotic therapy.

If primary gastrointestinal disease is strongly suspected and there is no response to therapy, consider obtaining GI biopsies.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

The debris visualized within the urinary bladder appears irregular. In the dorsal apical region it appears somewhat organized. It is difficult to differentiate cystic hypoechoic tissue from suspended debris. Correlate these findings with a urinalysis and culture and possible reevaluation of this area with color flow, etc.





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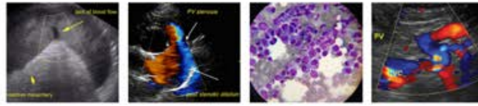

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

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