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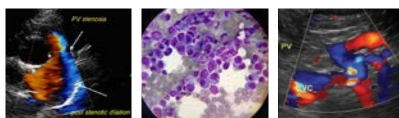

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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DATE
1/5/23

PATIENT
Gyzmo Smaller

SPECIES
Canine

BREED
Yorkshire Terrier

SEX
Intact Male

AGE
4/8/12

WEIGHT
14.5 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

HOSPITAL NAME
Animal Emergency Hospital

REFERRING VET
Dr. King

INVOICE
43935

PRESENTING CLINICAL SIGNS

Saw RDVM during the day for vomiting Treated outpt with pain injection antinausea , subQ fluids and clavamox tgh(need to get records still) Always finicky Started to vomit multiple times RDVM on 1/2 pcv 33, WBC 32,00, Creat 2.6, BUN 53, Phos 6.9 markedly increase amylase and lipase as per owner , nsf on rads Saw labs from 4/15/22 Lipase 970, amylase 5225 CK elevated ALT 216, SDMA 28 Creat 3.1, BUN 73 Home tonight and was weak, not eating, still ADR.

Current Medications: Unasyn, Entyce, Buprenorphine, Protonix, Cerenia, Benazapril.
Lab Results: See attached.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: DVM requested.
Imaging Performed By: Andi Parkinson, BS, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System
Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate is symmetrically enlarged (3.48 cm wide) with smooth margins that are well differentiated from surrounding tissue. Normal bilobed shape is maintained. Parenchyma is heterogenous with scattered hyperechoic foci present. No mineral or cysts are noted.

The right kidney is normal in size (5.25 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (4.51 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands
The right adrenal gland is normal in size (1.64 cm long x 0.54 cm at the cranial pole and 0.68 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (1.79 cm long x 0.69 cm at the cranial pole and 0.65 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen
The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver
The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in

echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

Diffusely, the visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Focally, in the proximal duodenum just distal to the duodenal papilla, there is a focal thickening of duodenum measuring 0.70-0.80 cm thick with loss of layering and a bright echogenic focus within the wall, concerning for intramural gas. A defect in the serosa is suspected in an area where there is a markedly enhanced hyperechoic clump of omentum/mesentery adjacent to the suspected loss of serosal integrity. There is a large amount of echogenic free fluid around the area. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The observed **pancreas** is prominent/enlarged in size and hypoechoic to surrounding tissue with a mildly irregular shape and coarse architecture. However, the change is considered mild and possibly exacerbated by the presence of the free fluid surrounding the pancreas.

Free Abdomen

A large amount of very echogenic free abdominal fluid is noted.

There is no apparent lymphadenopathy noted in these images.

A small amount of anechoic pleural effusion is noted.

PRIMARY FINDINGS

- **Focally thick duodenum with loss of layering, intramural gas, and a high suspicion for perforation with clumped omentum attempting to seal the perforation** – This could be secondary to a duodenal ulcer, perforating foreign body, infiltrative neoplasia, etc. The free fluid is concerning for a septic abdomen when combined with this change.

- Concurrent acute pancreatitis may be present but is not believed to be the primary contributing factor to the duodenal changes.

SECONDARY FINDINGS

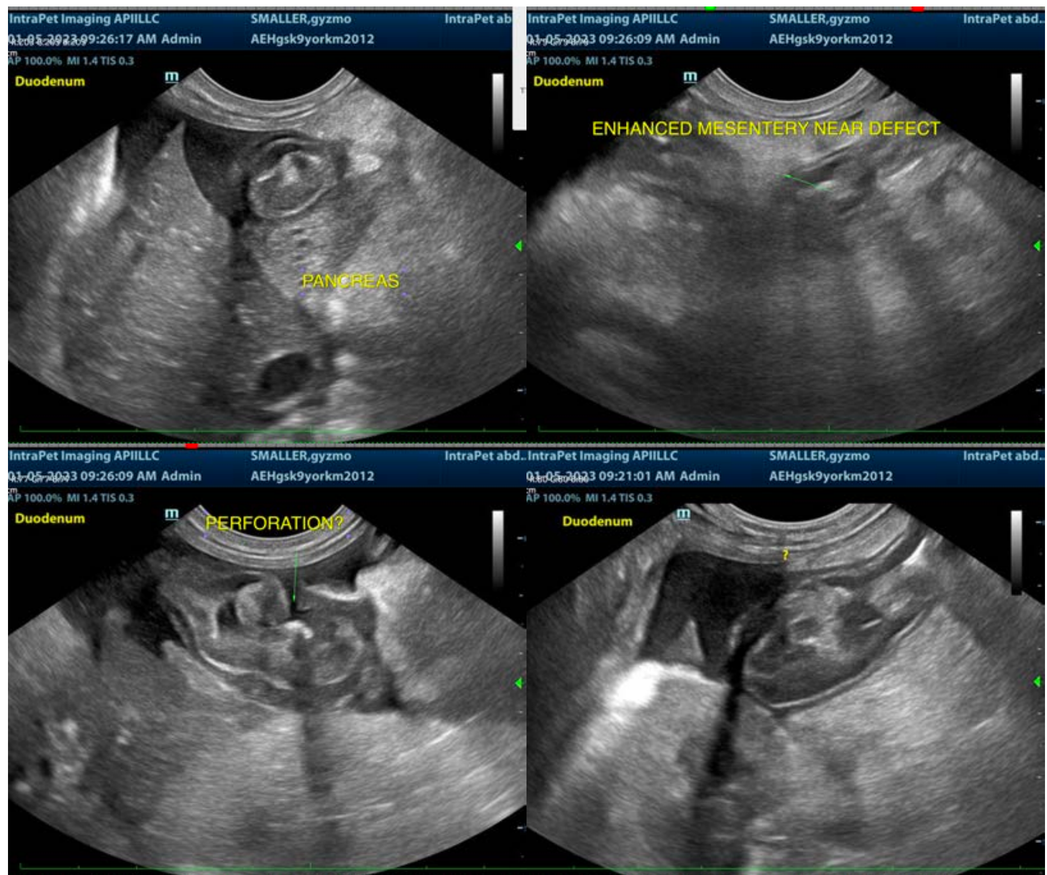
- Urinary bladder debris

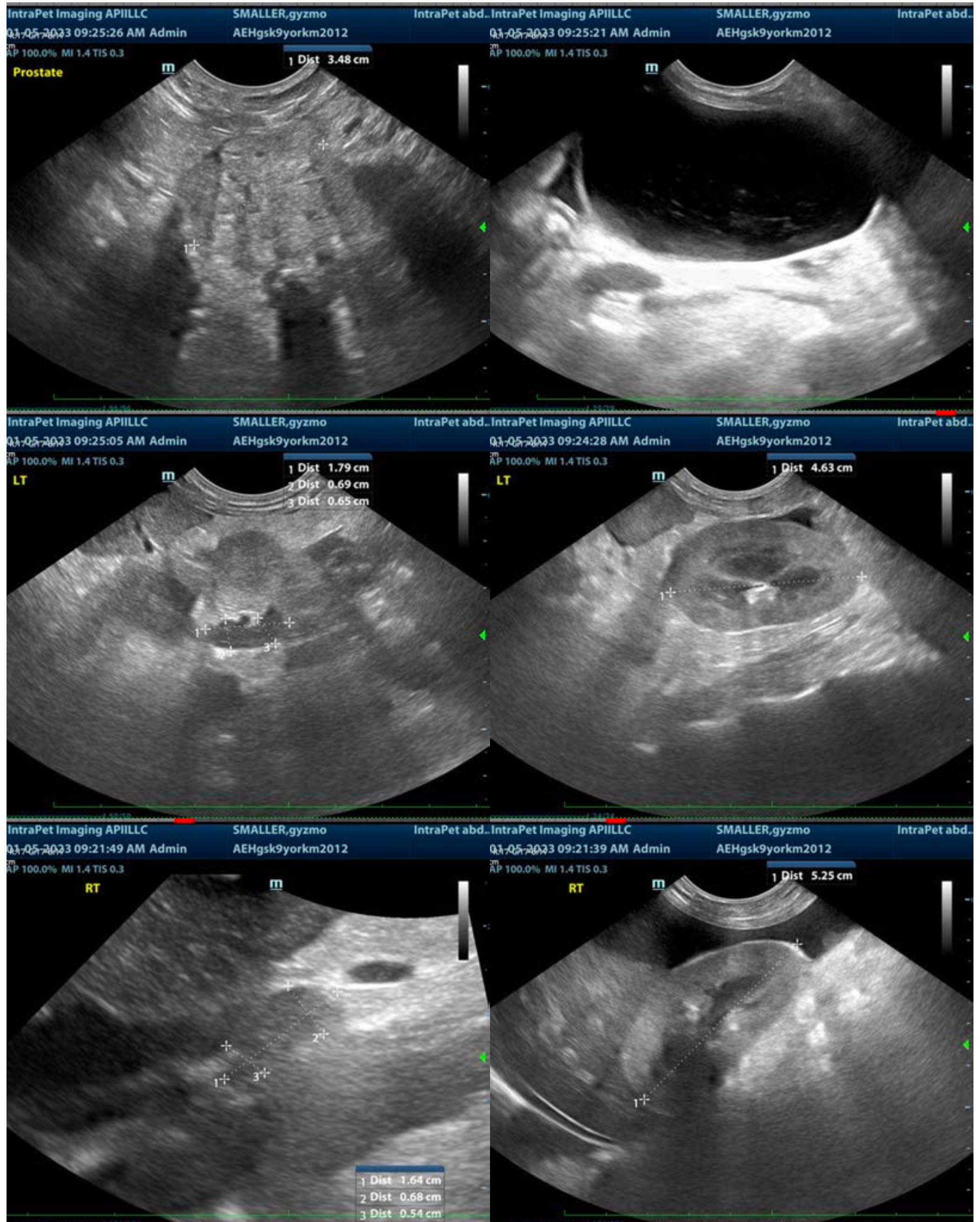
- **Benign Prostatic Hyperplasia –** Prostatic findings are most consistent with Benign Prostatic Hyperplasia (BPH) and hyperechoic foci consistent with increased vascularity and fibrosis often associated with BPH. Active prostatitis cannot be ruled out. Infiltrative neoplasia cannot be ruled out but is considered less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Sampling of this patient's free abdominal fluid is recommended as soon as possible to look for evidence of a septic abdomen. As soon as this patient is stable enough to undergo surgery, an exploratory laparotomy for planned resection and anastomosis of the suspected perforated proximal duodenum is recommended.

Perforation cannot be definitively guaranteed. Therefore, if the fluid is not a septic fluid, and emergency surgery is not an option, then aggressive supportive/symptomatic medical management of potentially ulcerative gastroenteritis could be attempted. However, close monitoring of patient's clinical signs, laboratory changes, increase in abdominal free fluid, etc. is recommended to immediately catch progression, should it occur.

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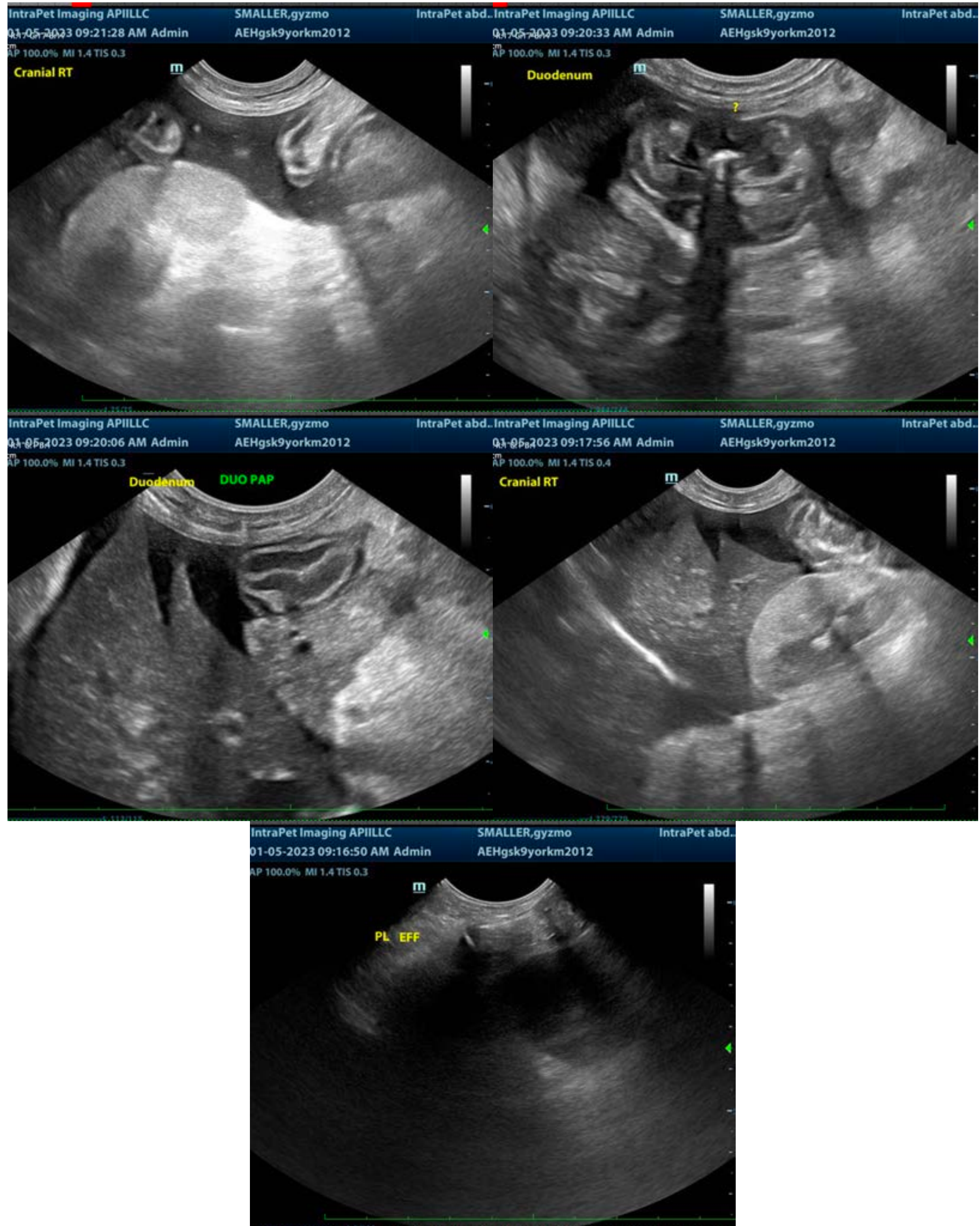

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com