



PATIENT

Waffles Duke

SPECIES

Canine

BREED

French Bulldog

SEX

FS

AGE

4 years

WEIGHT

12.3 kg

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP
(Canine and Feline)

IMAGING PERFORMED BY

Dr. Callihan/AEC

HOSPITAL NAME

Animal Emergency
Care

REFERRING VET

Dr. Drummond/AEC

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5/7/22

PRESENTING CLINICAL SIGNS

Waffles, a 4-year old FS French Bulldog, presented to the ER on 5/6/22 as a transfer from daytime vet in Friday Harbor (Guardian Veterinary Hospital), where Waffles was seen for tenesmus and a vomiting episode Thursday PM. Waffles had not defecated since Sunday (5/1). Owner gave enema on Wednesday (5/4) and Waffles had a small defecation on Thursday. - no changes to appetite, thirst, energy, or urinations. -Waffles has been on miralax since her ex-lap (colonic obstruction + jejunal enterotomy) here at AEC last month (4/9/22). She was initially on lactulose and then weaned off, stools solidified at that time. Her intake has been very closely monitored (no foreign body ingestion), family does have a gravel driveway and Waffles licks small pieces from carpet. -She has been eating a bland/GI diet + pumpkin + mineral oil. Family resumed lactulose on Friday AM (5/6) and also gave gabapentin (100 mg).

Abnormal PE/Chem/CBC/UA Results: Labs: WNL, including lactate Radiology report yesterday afternoon 5/6/2022: 1) Severe intestinal dilation with densely packed granular material It is unclear if the dilated intestinal segment of the abdomen represent the colon (possibly related to a colonic torsion given the small appearance of the descending colon in the caudal abdomen and the reported lack of defecation over the last 5 days). Alternatively, this could also represent dilated and obstructed small intestinal segments, possibly related to stricture formation given the previous enterotomy. 2) Multifocal breed -related congenital vertebral anomalies, considered incidental at this time (Radiologist) Recommendations: Ideally, further imaging such as a pneumocolonogram, abdominal ultrasound, or abdominal CT scan with contrast could be considered to definitively determine the origin of the dilated intestinal segment, however an emergent abdominal explore could also be considered pending clinical concern for patient stability if a negative abdominal explore is an acceptable risk. Alternatively, if the patient is deemed to be stable, hospitalization with fasting and intravenous fluid therapy, enemas, and further imaging of the abdomen in 6 to 8 hours as above would be recommended to reassess these findings. Radiology report early this morning 5/7/2022: FINDINGS: In the gastro-intestinal tract, there are multiple small mineral opacities. These are compatible with dietary indiscretion and are too small to cause an obstruction. The stomach is moderately distended with gas and some heterogeneous soft tissue opacity material. there are multiple distended intestinal structures, containing gas and some heterogeneous soft tissue opacity material and not all of them can be explained by the colon. Therefore, there is suspicion for focal distention of some small intestinal loops. There is impression of narrowing of the caudal aspect of the descending colon and the rectum but some of it could be exacerbated due to an kidneys of the organ. Peritoneal and retroperitoneal serosal details are adequate. No lesion is identified in the liver, the spleen, the kidneys and the urinary bladder. CONCLUSIONS: There is suspicion for small intestinal obstruction. This could be caused by soft tissue opacity foreign body, stricture, adhesion or neoplasia. These cannot be definitely differentiated radiographically. Concomitant motility disorder cannot be excluded. A constipation could also be present but should be correlated the clinical data. RECOMMENDATIONS: It is noted that exploratory laparotomy has been performed on April 9, 2022. Depending on the clinical evolution, computed tomography could be beneficial to further evaluate the abdomen, but also the pelvic canal and potentially the cause for the constipation.



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ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Waffles Duke

Urinary System

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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

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The area of the iliac trifurcation was free of pathology including no overt evidence of medial iliac or sublumbar lymphadenopathy.

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Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 5.3 cm in length. The right kidney measured 5.3 cm in length.

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Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.63 cm width at the caudal pole and 0.5 cm width at the cranial pole. The right adrenal gland was not definitively visualized.

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Spleen

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

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Liver/ Gallbladder

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

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Gastrointestinal

The stomach exhibited generalized distention containing potentially retained hyperechoic nonspecific ingesta exhibiting progressive distal acoustic shadowing along with luminal gas. The visualized gastric walls were sonographically normal. The ventral gastric body wall width measured 0.30 cm.

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The small intestine presented intact wall layering and subjective maintained 1:3 muscularis/mucosa ratio. The small intestine exhibited segmental empty lumen along with segmental areas of small intestine containing a subjective mild amount of nonspecific, hyperechoic, mild progressively shadowing digesta. The duodenum wall width measured 0.52 cm. The jejunum wall width measured 0.30 cm. Overt evidence of a small Intestinal obstructive pattern was not evident.

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The colon exhibited primarily generalized distention containing strongly shadowing fecal matter subjectively within the proximal and transverse colon to an approximate point suspected to be within



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the descending colon, in which the descending colon was primarily empty extending caudally into the colorectum. The descending colon wall width measured 0.45 cm. An obvious colonic mural lesion or criteria consistent with colonic torsion was not overtly obvious.

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Pancreas

The parenchyma of the left limb, body, and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease were evident.

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Free Abdomen

Intermittent mesenteric lymph nodes were present. The lymph nodes were essentially isoechoic to adjacent omentum without evidence of peripheral inflammation and maintaining a normal width: length ratio (<0.5). An example of a mesenteric lymph node measured 2.7 cm x 0.82 cm. Small pockets of scant peritoneal free fluid were present.

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ULTRASONOGRAPHIC FINDINGS

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- Distended stomach with gas and progressively shadowing nonspecific ingesta, possible persistent retained ingesta if documented NPO
- Overtly normal small bowel containing segmental similar-appearing progressively shadowing ingesta - no overt small bowel obstructive pattern
- Generalized distended subjective proximal to transverse colon with strongly shadowing fecal matter to nonspecific segment of subjective descending colon, empty descending colon/colorectum with intact to potentially thickened descending colon walls
- Scant peritoneal free fluid and intermittent subjectively benign mesenteric lymphadenopathy

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

An obvious cause of descending colon obstruction was not identified yet potential nonspecific descending colon mural thickening or pathology, given the presence of shadowing fecal matter and colonic distention to a certain point in the descending colon is suspicious. Possible generalized inefficient GI peristalsis without overt mechanical gastrointestinal obstructive pattern or nonobvious gastrointestinal foreign matter cannot be excluded.

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Hospitalization with IV fluid and gastrointestinal support with documented fast and radiographic or sonographic monitoring is suggested. As previously mentioned, additional advanced imaging and gastrointestinal / colonic biopsies, if not previously obtained, would likely be ideal.

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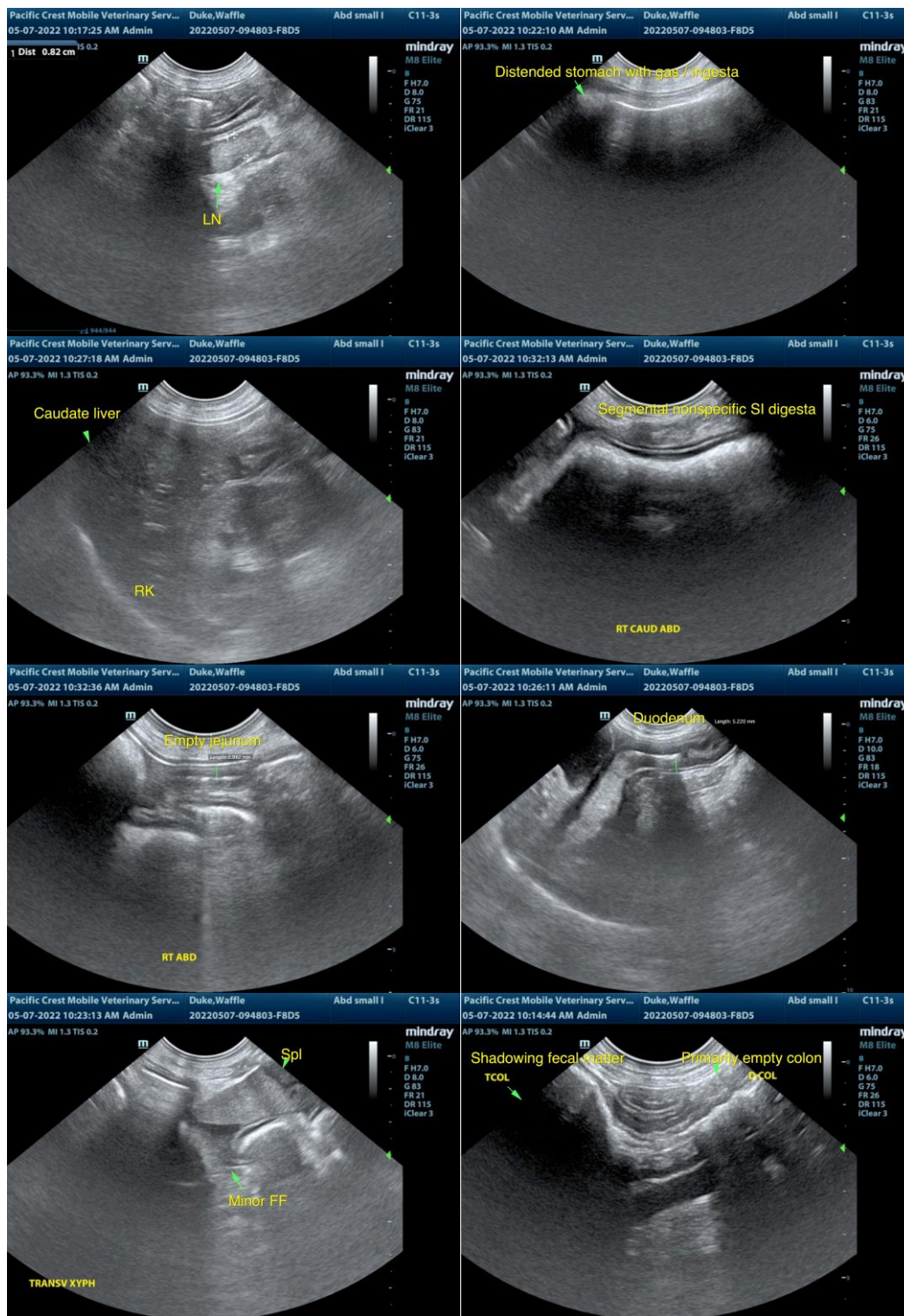
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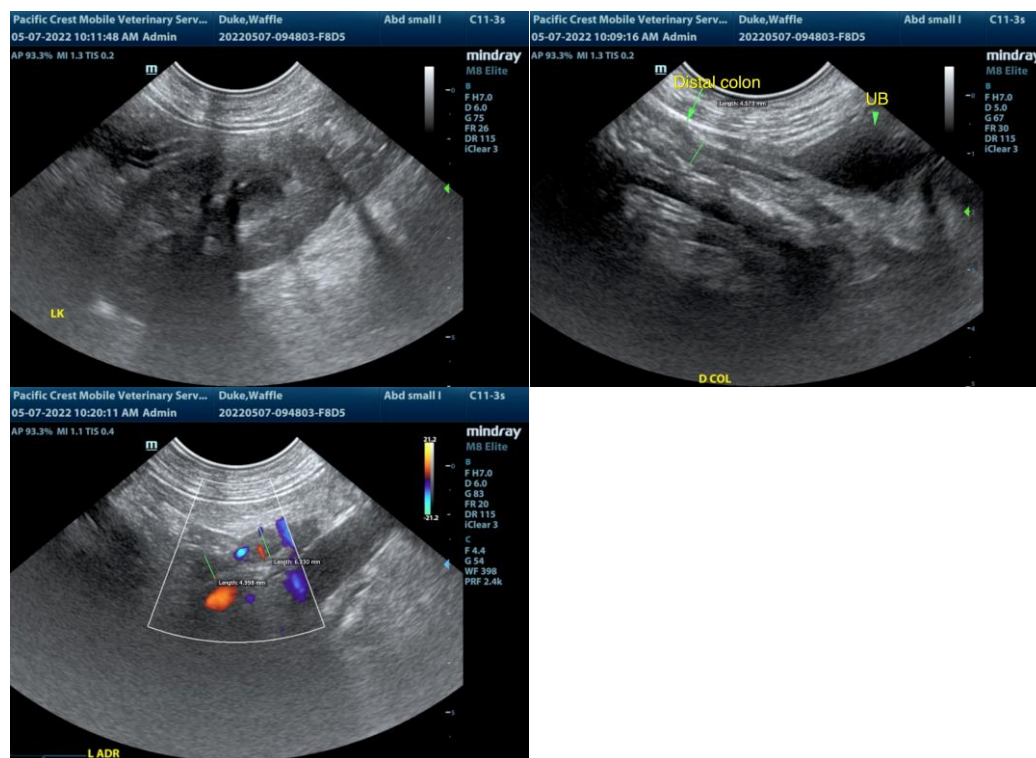
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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