



**PATIENT PRESENTING CLINICAL SIGNS**

**PATIENT** Starla Waraas  
**SPECIES** P presented 10/10 for acute onset vomiting, rads taken and sedated oral exam all unremarkable, bloodwork revealed mild hyperglycemia and hypokalemia/hypochloridemia due to V+, o elected outpatient cerenia, p represents for continued vomiting and inappetence, painful to abdominal palpation, mild ptialism, anorexia continued

**BREED** Feline  
**DLH** Abnormal PE/Chem/CBC/UA Results: 10/11-Radiographs: stomach has some gas but otherwise appears empty, SI wnl, feces and gas in colon, liver/kidneys/bladder appear wnl, serosal detail wnl EPOC : HCT 39%, Ca 1.15, Cl 109, Glu 284, K 3.1, Na 143, pO2 55.8, tCO2 27.2, BE 2.3, sO2 88.6%, BUN failed( normal on chem) Chem10: Glu 289 CBC: retic-hgb 13.1, plt 143, all else wnl hct 39% 10/13 AM - FELV/FIV - NEG/NEG ePOC- HCT 47%, iCa 0.93, CL 95, CRE 2.87, GLU 198, K+ 2.7, Na 134, pH 7.525, TcO2 25.4, BeEcG 2.8, BUN >120,

**SEX ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**SEX** Spayed Female  
**Urinary System**

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

**AGE** 5 Months  
**WEIGHT** 6.16 Pounds  
The kidneys are bilaterally normal in size. The left kidney measures 3.6 cm. The right kidney measures 4.3 cm. There is decreased corticomedullary distinction and poor visualization of internal architecture in both kidneys. A hyperechoic band parallel to the corticomedullary border is present around both kidneys. No mineral is observed.

**Adrenal Glands**

**INTERPRETED BY** The areas of both adrenal glands are examined without evident pathology.

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(Small Animal Internal  
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**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.

**IMAGING PERFORMED BY** **Liver**

**Dr. Maggiulli**  
**HOSPITAL NAME** 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.

Willamette VH

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.

**REFERRING VET** **Gastrointestinal**

**Dr. Maggiulli**  
The visible stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The stomach is moderately overdistended with echogenic apparent fluid/chyme.

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**DATE** 10/13/22  
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). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty, except for the proximal bowel/duodenum, which is mildly dilated with similar contents as described for the stomach. The duodenum cannot be followed to where it rejoins normal, non-distended bowel versus a cause of the distention.



**PATIENT**

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

**SPECIES**

***Pancreas***

Feline

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

**BREED**

***Free Abdomen***

DLH

There is no evidence of free peritoneal effusion noted in these images.

**SEX**

There is no apparent lymphadenopathy noted in these images.

Spayed Female

**ULTRASONOGRAPHIC FINDINGS**

**AGE**

5 Months

- The kidney changes are suggestive of chronic or potentially congenital kidney disease. The medullary rim sign is of unknown clinical significance and can be a normal variant, often idiopathic. However, it can also be seen with renal disease including FIP, lymphoma, hypercalcemia nephropathy, Leptospirosis, tubular disease, etc., and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc.

**WEIGHT**

6.16 Pounds

- Dilated stomach and proximal duodenum with normal empty bowel appreciated in the caudal abdomen – This is an obstructive pattern. While normal ingesta/chyme within the stomach and proximal duodenum can't be ruled out, especially given the concurrent suspected kidney disease, and reported azotemia/dehydration, which may result in some metabolic gastritis/ileus, there remains some concern for delayed upper outflow, secondary to at least a partial if not full obstruction, i.e., hairball, foreign body, other.

**INTERPRETED BY**

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

**IMAGING PERFORMED BY**

Dr. Maggiulli

Rehydration, fluid therapy, and diuresis, in addition to supportive medical management of clinical signs with antiemetics, gastroprotectants, etc. are recommended to rehydrate the GI tract and potentially allow for improved function, followed by rescanning of the stomach and duodenum, trying to follow the dilated duodenum, if possible, to where it either reaches normal bowel or reaches a cause for obstruction. Or, if clinical signs persist, an exploratory laparotomy could be considered for potential foreign body removal, if present.

**HOSPITAL NAME**

Willamette VH

**REFERRING VET**

Dr. Maggiulli

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**PATIENT**

Starla Waraas

**SPECIES**

Feline

**BREED**

DLH

**SEX**

Spayed Female

**AGE**

5 Months

**WEIGHT**

6.16 Pounds

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**IMAGING  
PERFORMED BY**

Dr. Maggiulli

**HOSPITAL NAME**

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**REFERRING VET**

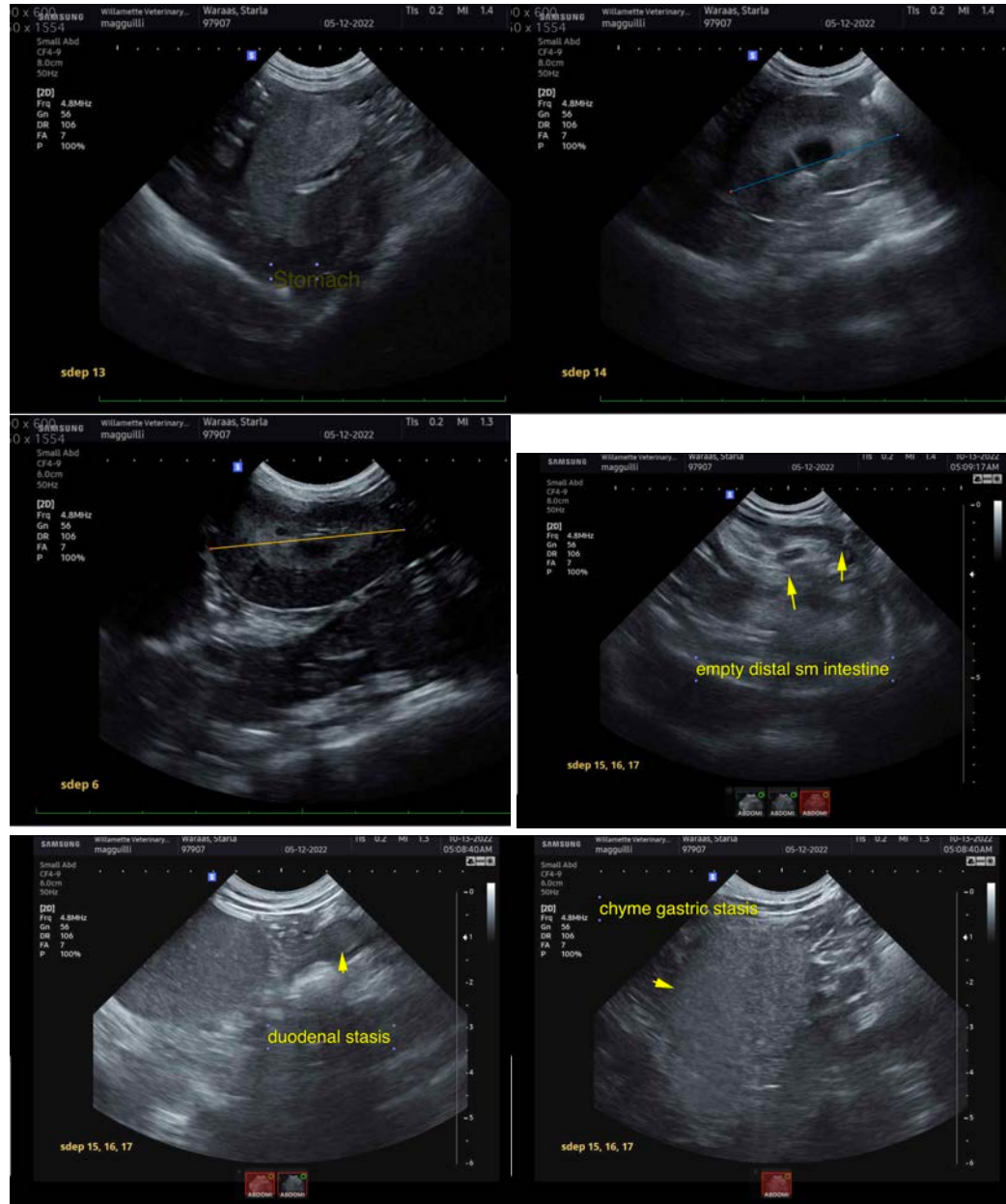
Dr. Maggiulli

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**DATE**

10/13/22



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**  
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