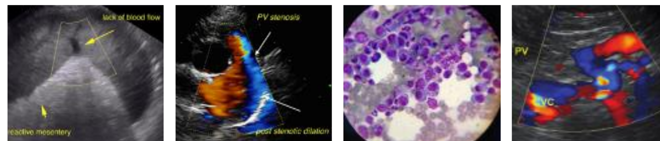

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1-800-838-4268 info@sonopath.com

PATIENT

Sadie Chatta

SPECIES

Canine

BREED

Terrier X

SEX

Spayed Female

AGE

10 Years

WEIGHT

5.8 kg

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Belan

HOSPITAL NAME

McKnight 24-hour AH

REFERRING VET

Dr. Gavin

INVOICE

14397

DATE

3/21/22

PRESENTING CLINICAL SIGNS

History: Vomiting continuously. Suspect cranial Ab mass on AFAST

Abnormal PE/Chem/CBC/UA Results: Mod elevation SDMA and BUN mild elevation Amylase

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** presented a relatively uniform thickening of the cranioventral and craniodorsal mucosae with micropolypoid mucosal changes without involvement of the submucosae. The urine presented some echogenicity consistent with suspended debris. No evidence of urethral pathology was present. This presentation is most consistent with moderate chronic cystitis. Technically transitional cell carcinoma cannot be ruled out with=out histopathological review but is not overtly suspected based on this pattern. Cystocentesis and urine culture +/- pathological review of urine cytology would be warranted. No overt calculi were present at this time.

The **kidneys** revealed largely normal size and structure with some mild age-related loss of curvilinear patterns regarding the capsule and C/M junction. Medullary structure differed distinctly from that of the cortex. Slight pyelectasia was noted in both. kidneys. Microcystic cortical changes noted. The right kidney measured 4.9 cm. The left kidney measured 4.9 cm.

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 0.5 cm at the caudal pole and 0.42 cm at the cranial pole. The right adrenal gland measured 0.46 cm at the caudal pole and 0.43 cm at the cranial pole.

Spleen

The **spleen** revealed slight heterogeneous parenchymal changes. Caudal folding of the spleen was noted.

Liver

The **liver** was mildly swollen with heterogeneous hypoechoic nodular changes. The **gallbladder** was mildly over distended with suspended and dependent debris, yet not to the level of emerging mucocele, yet sludge appears to be mildly excessive. No adjunctive inflammation was noted. Common bile duct was normal.

Gastrointestinal

The **stomach** in this patient revealed a 2.5 cm luminal mass with variable wall thickening (up to 1.0 cm). Significant gastric stasis noted with anechoic fluid. The small intestine and colon were unremarkable.

Pancreas

The **pancreas** revealed hypoechoic right limb with enhanced surrounding mesentery, suggestive for inflammation. This is a fairly mild change.

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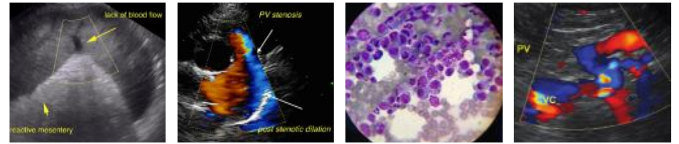

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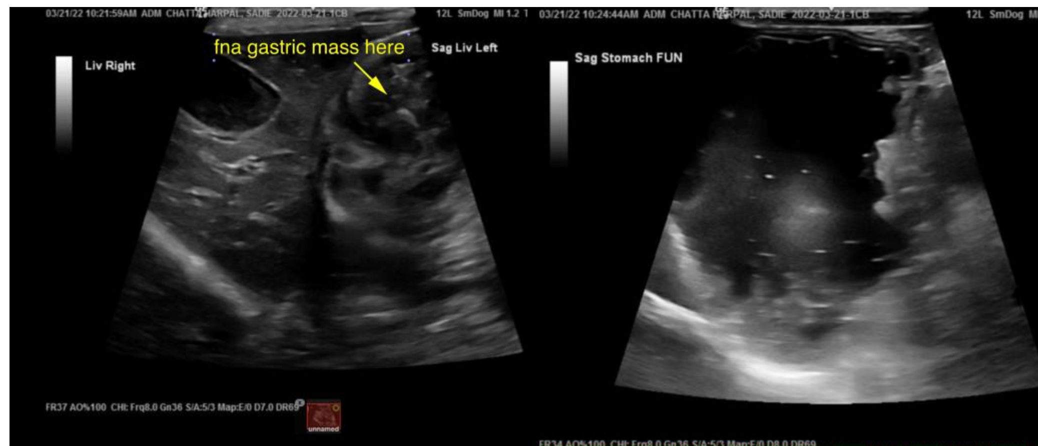
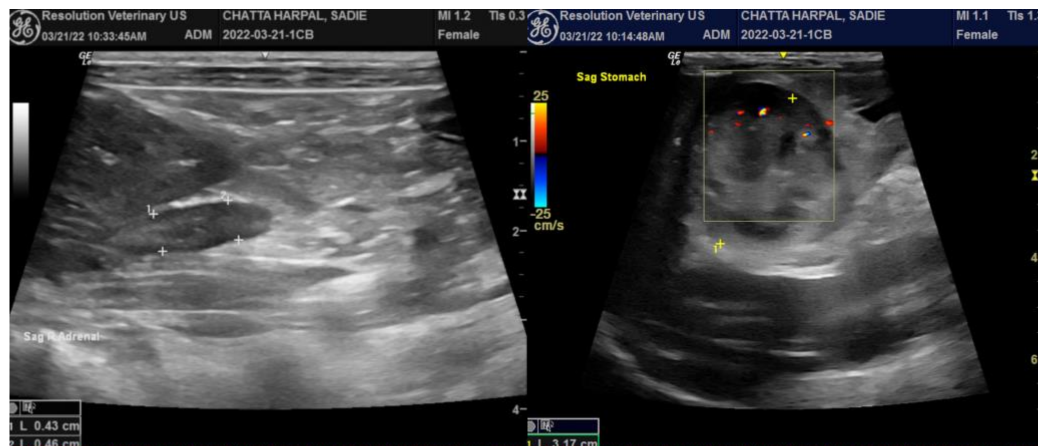
ULTRASONOGRAPHIC FINDINGS

- Luminal gastric mass. Carcinoma likely. Round cell neoplasia or epithelial tumor possible.
- Moderate degenerative renal changes
- Chronic cystitis bladder pattern
- Heterogeneous spleen
- Swollen, heterogeneous liver
- Gallbladder sludge
- Hypoechoic pancreas (right limb)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Ultrasound guided FNA or endoscopy indicated. This may be resectable with Bill Roth procedure.





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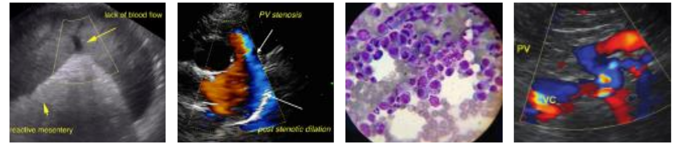

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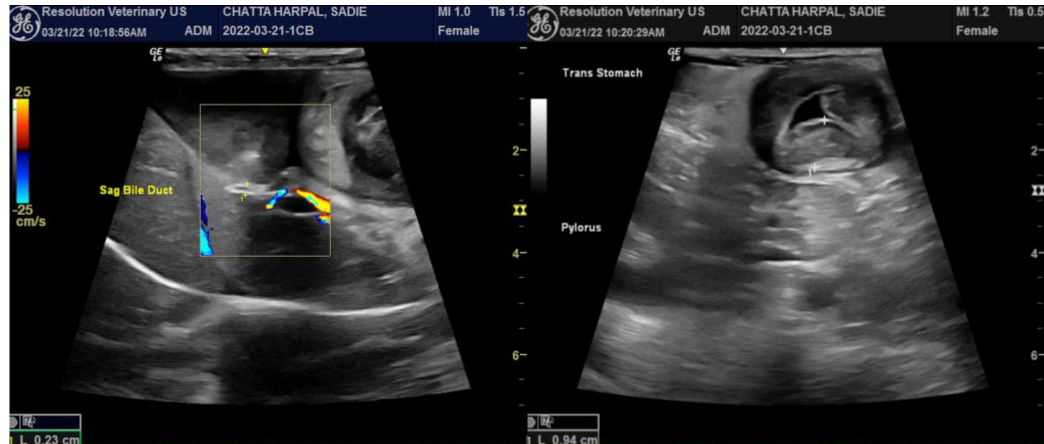

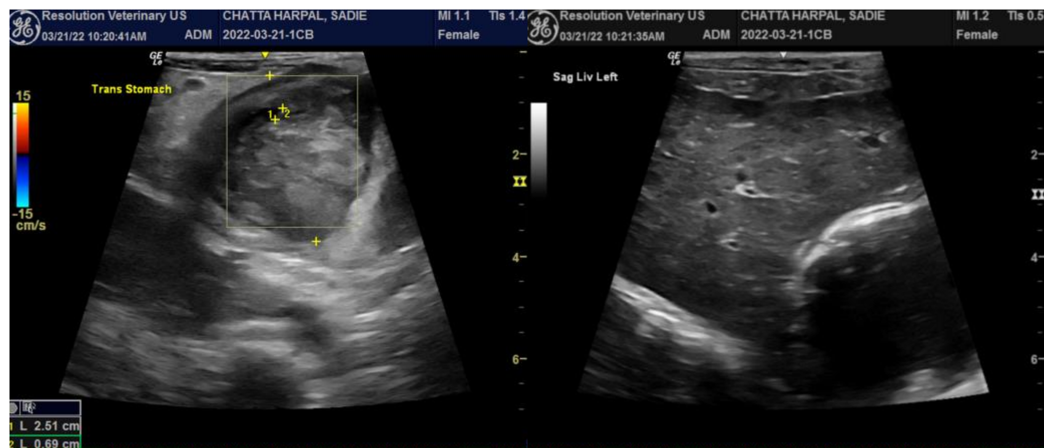

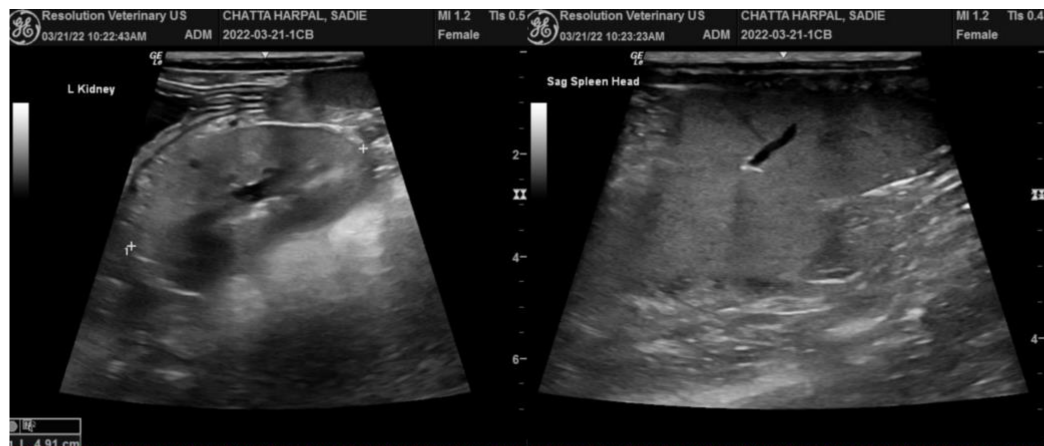

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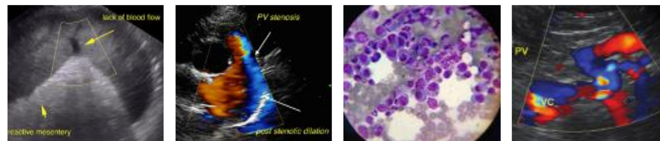

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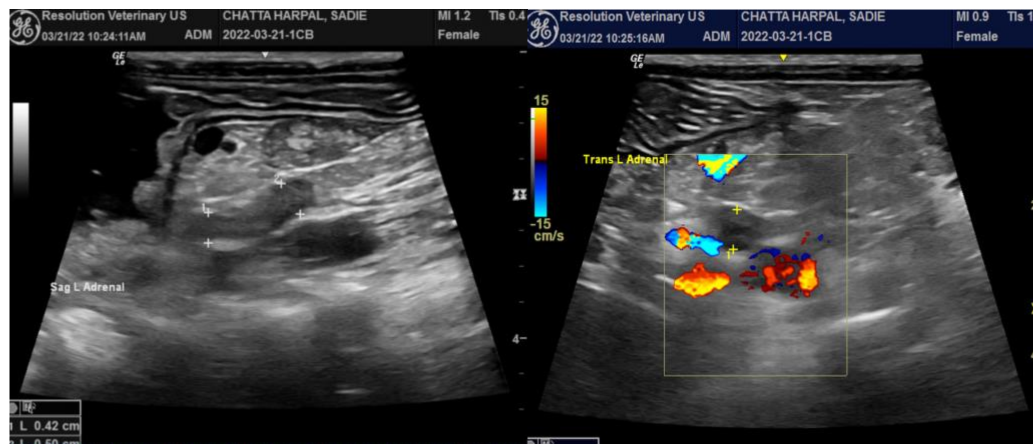

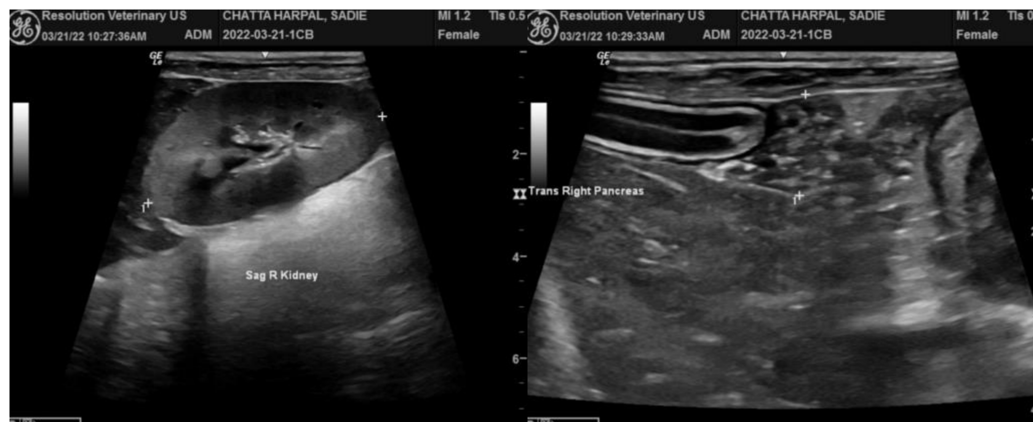

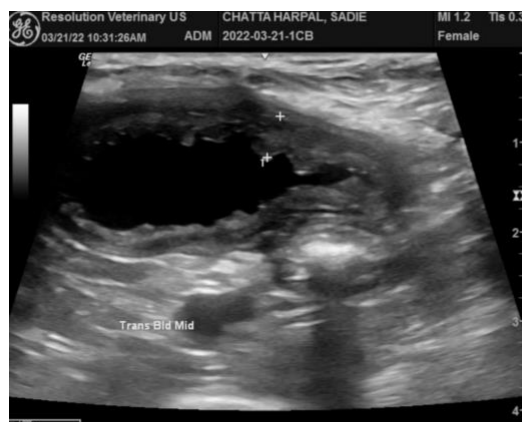

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com

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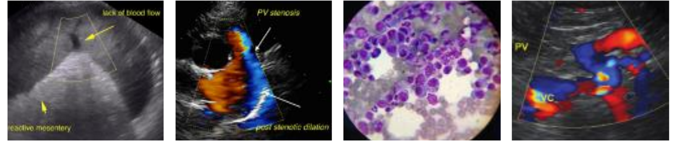

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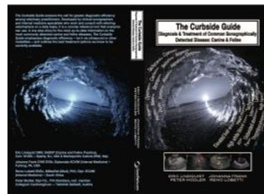
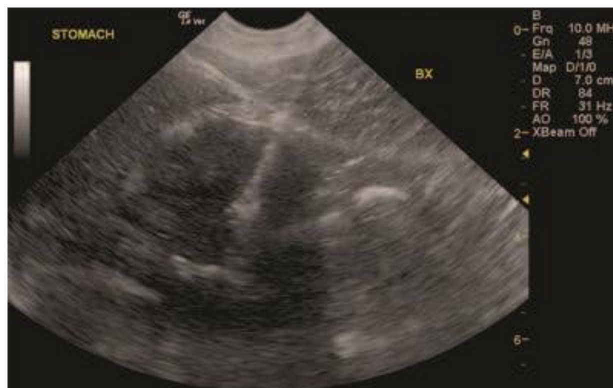
The following is an applicable excerpt from the *Curbside Guide to Diagnosis & Treatment of Sonographic Disease* offered by SonoPath.com Lindquist, Frank, Lobetti, and Modler.

An essential quick guide for every general practitioner and sonographer.



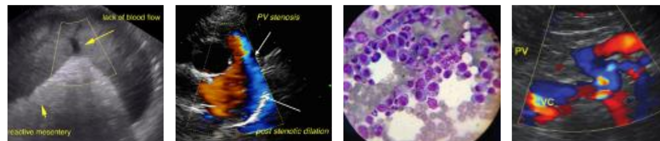
Canine Gastric Neoplasia

http://www.sonopath.com/GastricNeoplasia



Short axis of the stomach in a dog with gastric lymphosarcoma during ultrasound guided biopsy. The automated core biopsy needle trajectory is seen as a hyperechoic line. Note the severe asymmetric circumferential wall thickening of the stomach with transmural loss of wall layering meets neoplastic criteria.

Description: Gastric neoplasia is uncommon in dogs, accounting for less than 1% of canine neoplasms. Up to 71% of malignant gastric tumors in dogs are adenocarcinomas and an additional 10% are due to lymphoma (LSA). Gastric LSA affects median age dogs of 6-7 years. Other primary gastric tumors include leiomyoma, leiomyosarcoma, extramedullary plasmacytoma, and fibrosarcoma. Although less common, metastasis to the stomach can occur secondary to adenocarcinomas, hemangiosarcomas, mast cell tumors, and LSA of other primary sites.



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Clinical Signs: Gastric neoplasia incites nonspecific signs that are frequently seen either when gastrointestinal foreign bodies are present or with the following diseases: inflammatory bowel disease, pyloric stenosis, ulcerative disease, pythiosis, and viral GI disease. The most common signs associated with gastric neoplasia are chronic vomiting (particularly post-prandial), hematemesis weight loss, and anorexia; diarrhea and melena are also typical. Tenesmus and hematochezia may be observed in cases of large bowel involvement. Abdominal pain may also occur.

Diagnostics: Blood analysis results may be normal or indicate a spectrum of abnormalities. Gastric neoplasia may present with hypochromic microcytic anemia due to chronic blood loss; the latter can be confirmed by the presence of occult blood in the feces. Icterus may occur due to infiltrative post hepatic obstruction of the bile duct where it enters the duodenum. Hypochloremia and hypokalemia may be present in cases of protracted vomiting. Hypoproteinemia may occur if there is protein loss due to small bowel involvement or secondary to chronic blood loss in the stomach. A preliminary diagnosis of gastric neoplasia can be achieved by utilizing contrast radiography, ultrasonography, and endoscopy. Contrast radiographic studies may reveal mural thickening, filling defects, loss of normal rugal folds, and delayed pyloric outflow.

To achieve a definitive diagnosis, one must obtain a biopsy via laparotomy, an ultrasound-guided procedure, or endoscopy. Laparotomies are considered to be the most reliable means of arriving at a definitive diagnosis as they produce full thickness samples of the abnormal tissue. Less invasive sampling can frequently provide adequate tissue for a diagnosis via an ultrasound-guided needle biopsy or fine needle aspiration (FNA).

Treatment: Specific treatment of gastric neoplasia depends on the diagnosis of the underlying tumor. Medical management should be oriented toward correcting the acid/base disturbances with fluid support, gastric protection (famotidine 0.5 mg/kg PO or IV BID, or omeprazole 0.7 mg/kg PO Q24hr as well as sucralfate 1 g PO TID at least 1 hour prior or after the ingestion of food and other medication), and anti-emetic therapy (maropitant citrate 1 mg/kg SC once daily for up to 5 days). Severe regenerative anemia secondary to ulcerative lesions is rare but may, when present, necessitate transfusion therapy. If a surgical bypass or partial gastric resection is performed, post-operative nutritional support should entail a bland, low-fat diet for the 24 hours following surgery in conjunction with anti-emetics and fluids comprised of a balanced electrolyte solution. Broad-spectrum antibiotics that are effective against *Helicobacter*, a common complicating factor, are indicated and may also be necessary during neutropenic episodes secondary to chemotherapy. Once a firm diagnosis of gastric neoplasia has been made, referral to a veterinary oncologist is appropriate.

Conclusion: Gastric adenocarcinoma carries a poor to grave prognosis; the disease is usually advanced by the time a diagnosis has been made. Gastric LSA has a variable prognosis, as do the other tumors that can occur in the stomach.

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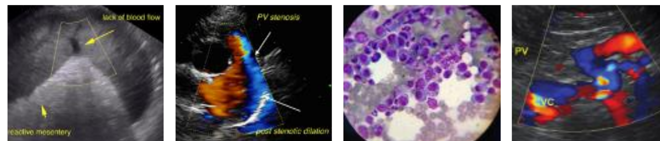

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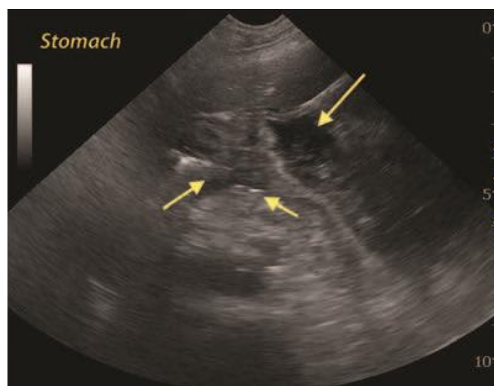

Long axis oblique view of the stomach (pyloric outflow) in a dog with gastric adenocarcinoma. Note the severe focal wall thickening with pseudolayering typical of adenocarcinoma (middle arrow). Also note the presence of hyperechoic gas (small arrow) outside the stomach and scant peritoneal effusion consistent with perforation as a sequel to the neoplastic infiltrate. Long arrow: gastric lumen and uid accumulation.

References:

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Pennick D. Characterization of gastrointestinal tumors. *Vet Clin North Am Small Anim Pract* 1998;28(4):777-95.