

**DATE PRESENTING CLINICAL SIGNS**

5/23/22

Presented yesterday for decreased appetite to anorexia x 1 week. Hx. of recently eating paper and is also known to eat foreign objects (ie, string) in the past. Elevated liver enzymes on yesterday bloodwork (see below).

**PATIENT**

Kitty Purry Laser

PE: BAR, jaundice, mm pale/tacky, otherwise unremarkable PE

**SPECIES**

Feline

Current Medications: Ampicillin, Metronidazole, Cerenia \*all IV injectable in hospital.

Lab Results: ALT 622, ALP 418, Tbil 6.1.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Requested by DVM.

**BREED**

DSH

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****SEX**

Spayed Female

**Urinary System**

The urinary bladder is well distended. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. A trivial amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

**AGE**

5/22/16

**Kidneys**

The **left** kidney not visualized. History of a previous nephrectomy due to renal cysts. Renal fossa does not reveal any abnormalities. The surrounding mesentery is not hyperechoic.

**WEIGHT**

10.6 Pounds

The **right** kidney measures 4.24 cm (3.80-4.40 cm). The capsule is smooth. Its overall architecture, including the definition of the cortico-medullary junction, are preserved. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**Aortic bifurcation/trifurcation**

No abnormalities observed.

**IMAGING PERFORMED BY**

Andi Parkinson RDMS

**Adrenal Glands**

The **left** and **right** adrenal glands were seen in passing, however, accurate measurements are not possible due to gas in the surrounding GI tract. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture.

**HOSPITAL NAME**

Everhart VH

**Spleen**

The spleen is within normal limits in size 9.2 mm (normal = 10 mm) and echotexture. It is mildly, but diffusely hypoechoic. Very subtle scalloping of the capsule is present. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

**REFERRING VET**

Dr. DeFavero

**Liver**

Although overt hepatomegaly is not appreciated, the liver appears mildly "swollen", and its borders are smooth, but mildly rounded. The liver's echotexture is homogeneous, but mildly hyperechoic, i.e. it is isoechoic to the falciform fat. A scant amount of anechoic free fluid is observed surrounding the dorsal caudal lobe of the liver and in between two liver lobes. No abnormalities are observed with the hepatic vessels visualized.

**INVOICE**

37858

The gallbladder wall is within normal limits in thickness and echogenicity. There is no evidence of echogenic material within the GB or edema surrounding it. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.

### **Gastrointestinal**

An abnormal gas pattern is observed within the stomach, which is suggestive of a foreign body, however, an obstructive pattern is not visualized. A very small amount of fluid is also present within the body. The gastric wall is within normal limits in thickness and the wall layers are well defined. The mesentery medial to the stomach is mildly to moderately hyperechoic. A very mild decrease in peristalsis is present.

The small intestinal wall thickness is within normal limits and the definition of the wall layers is preserved. The submucosa is mildly prominent in some of the segments of jejunum, and very subtle fogging of the mucosa is present. The mesentery surrounding a few loops of bowel is hyperechoic. Abnormally dilated loops of bowel are not observed.

The colonic wall is not thickened and mural detail is considered normal.

### **Pancreas**

The pancreas is diffusely hypoechoic and has irregular contours. The surrounding mesenteric fat is mildly to moderately hyperechoic, suggestive of saponification. These findings are highly suggestive of active pancreatitis. Overt signs of neoplasia are not noted.

### **Other**

**Bates body:** A structure localized in the cranial right abdomen is suggestive of a Bates body, which is not considered pathological. That is, it does not appear to be associated with any other organs.

### **Lymph nodes**

No abnormalities observed.

### **Abdominal effusion**

A scant amount of anechoic free fluid is observed surrounding the dorsal caudal lobe of the liver and in between two liver lobes.

## **ULTRASONOGRAPHIC FINDINGS**

- **Acute pancreatitis** is strongly suspected.
- The **spleen** is at the high end of the normal reference range. It is also diffusely hypoechoic with a mildly scalloping capsule. Lymphoma or infiltrative disease with another type of round cell tumour cannot be excluded. However, other possible differential diagnoses include splenitis due to antigenic stimulation and secondary inflammation, including immune mediated induced inflammation. Infectious diseases can cause the former. Other differential diagnoses include extramedullary hematopoiesis and hypersplenism. A fine needle aspirate is required to obtain a definitive diagnosis.
- High index of suspicion of a **gastric** foreign body that is not causing an obstructive pattern. It is not typical of a trichobezoar, however, one may be mixed with other foreign material, such as paper, which Kitty Purry has a tendency of eating.
- The intestinal abnormalities are subtle and may be due to underlying inflammatory bowel disease (IBD). Pica is a sign commonly observed in cats with IBD. There are no obvious signs of infiltrative disease, such as lymphoma.
- Borderline hepatomegaly and very mild hyperechogenicity are present. Cholestasis and cholangitis/cholangiohepatitis are suspected. A suppurative component cannot be excluded.

Hepatic lipidoses due to hyporexia/anorexia is likely contributing to the hyperechogenicity of the liver.

- Possible Bates body in right cranial quadrant of abdomen.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Fine needle aspirates of the spleen and liver are required to obtain a definitive diagnosis. Due to the inability to perform a coagulation profile, a single dose of vitamin K (0.5 mg/kg SQ) is recommended at least 30 minutes prior to performing the procedure. The single dose will also help treat cholestasis, however, one to two additional doses q8-12h would be even more beneficial.

Continue supportive care, in addition to administration of analgesia, such as buprenorphine, with or without lidocaine and ketamine CRIs. Mirtazapine in the form of Mirataz topical gel is suggested to avoid nausea associated with oral medications.

Consider enrofloxacin if Kitty Purry's clinical status plateaus to increase spectrum of antibiotic coverage. The metronidazole may then be weaned gradually after a few days.

Dose of metronidazole 7.5 mg/kg IV every 12 hours in light of liver enzyme abnormalities.

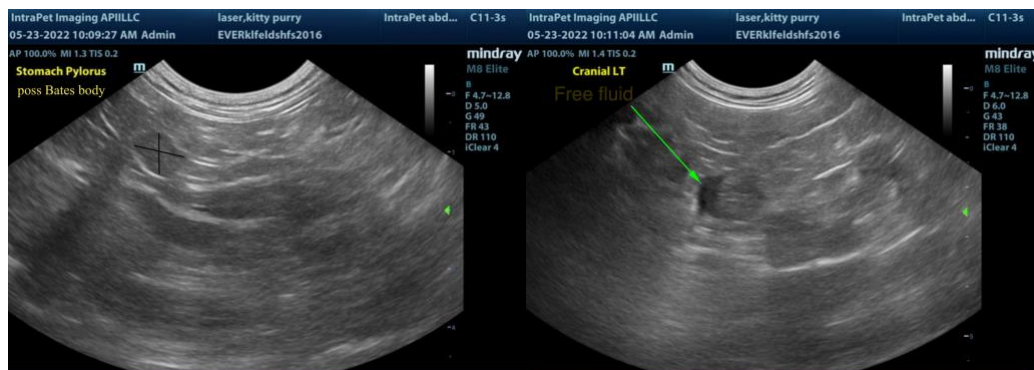
With regard to the foreign body, baseline radiographs may be performed and followed up in 12-18 hours to ensure the gas pattern is moving, or a sonographic re-evaluation may be performed.

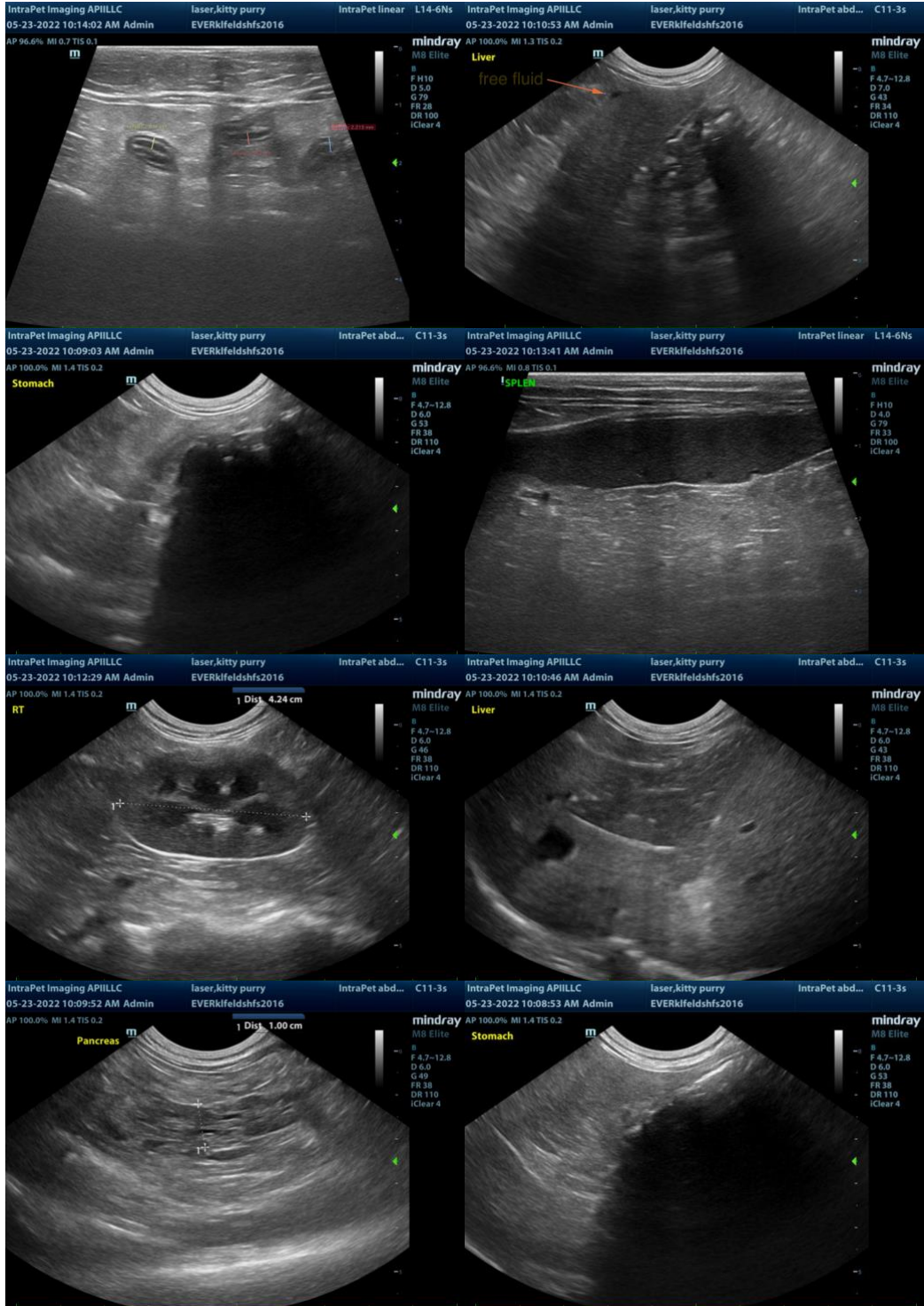
The administration of petroleum jelly or Laxatone may help coat the foreign body and help it pass.

Small, frequent meals are suggested.

Trickle feeding via a nasoesophageal or nasogastric tube may be considered to prevent the development of an ileus.

If a FNA is not performed and no improvement is observed, empirical therapy with prednisolone PO at 1 mg/kg/day x 14 days may be considered, followed by tapering of the dose. This would be in conjunction with a hypoallergenic (novel protein or hydrolyzed diet), once her appetite has returned.







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.

Lisa Carioto, DVM, DVSc, Diplomate AVIM

[Lisa.Carioto@sonopath.com](mailto:Lisa.Carioto@sonopath.com)