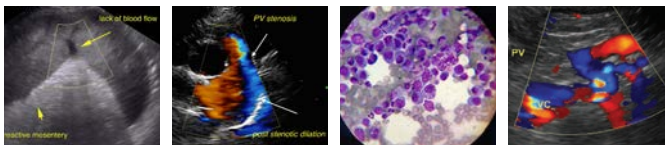
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

**PATIENT**
Libby Shaffer

**SPECIES**
Feline

**BREED**
DSH

**SEX**
Spayed Female

**AGE**
11.5 Years

**WEIGHT**
11.8 Pounds

**INTERPRETED BY**
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

**IMAGING PERFORMED BY**
Dr. Meghan Myers

**HOSPITAL NAME**
Hershire AH

**REFERRING VET**
Dr. Meghan Myers

**INVOICE**
38620

**DATE**
6/10/22

## PRESENTING CLINICAL SIGNS

history of weight loss, intermittent vomiting, possible intermittent diarrhea (owner unsure), inappetence, now for last 48 hours pet is anorexic despite cerenia and mirtazipine.
Abnormal PE/Chem/CBC/UA Results: cbc/chem/lytes/tt4 - normal fecal: NPS but was done 4 months ago, no recent lab results

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder is well distended with anechoic contents. The wall is not thicker than usual and is smooth and regular. A very small amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

**Kidneys**

The **left** kidney measures 3.70 cm (3.80-4.40 cm). The capsule is smooth. The cortex is mildly hyperechoic. A mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations of the diverticulae and pelvis are present, without pyelectasia. A hyperechoic linear structure is noted within the pelvis. Subtle acoustic shadowing is associated with the latter; consistent with a nephrolith. There is no evidence of hydroureter. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 4.23 cm (3.80-4.40 cm). The capsule is smooth. The cortex is mildly hyperechoic. A very mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations and linear, hyperechoic structures are present amongst the diverticulae and within the pelvis, some of which cast acoustic shadows. That is, multiple nephroliths are present. Very mild pyelectasia is present (1.2 mm). There is no evidence of hydroureter. The surrounding mesentery is not hyperechoic.

**Aortic bifurcation/trifurcation**

No abnormalities observed.

### *Adrenal Glands*

The **left** adrenal gland measures 0.25 cm. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

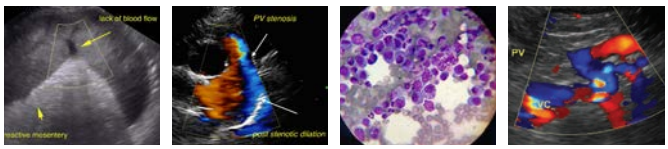
The **right** adrenal gland measures 0.28 cm. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

### *Spleen*

The spleen is within normal limits in echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified. Size: 7.23 mm (normal = 10 mm).

### *Liver*

There are no obvious signs of hepatomegaly. The liver's echotexture is homogeneous. It is mildly, but diffusely hyperechoic, i.e. it is isoechoic to the falciform fat. Focal lesions are not observed and no abnormalities are observed with the hepatic vessels.



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The gallbladder wall is within normal limits in thickness and echogenicity. A very small amount of echogenic material is present within the GB.

An in-depth evaluation of the cystic and common bile ducts is not possible due to the large amount of gas in the surrounding GI tract, however, there are no obvious signs of an obstruction.

### *Gastrointestinal*

A large amount of gas and fluid and a small amount of ingesta are present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. However, the submucosa and serosa are more echogenic and prominent (thicker) than usual. Peristalsis is mildly decreased.

Fogging of the duodenum is present. A moderate amount of ingesta, fluid and gas is present in the lumen of the duodenum. "Ineffective" peristalsis is noted throughout the entire GI tract, i.e., a "to and fro" motion is observed, consistent with a mild to moderate ileus.

A few jejunal segments are mildly thicker than normal or at the high end of the normal (0.27 cm). Both fogging of the mucosa and muscularis are noted, in addition to a more prominent muscularis layer. However, the definition of the individual wall layers is preserved. Fluid and gas are present within the lumen of the small intestines. "Ineffective" peristalsis is also observed throughout the small intestines. A few loops of bowel are mildly dilated with a moderate amount of ingesta, fluid and gas.

The transverse colon is filled with a moderate amount of ingesta, fluid and gas that show decreased motility.

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

### *Pancreas*

The pancreas has a mildly to moderately coarse echotexture, which is considered secondary to age related changes, however, previous episodes of pancreatitis cannot be excluded. Despite the mildly coarse echotexture, both limbs are, subjectively, hypoechoic. The surrounding mesentery is moderately to markedly hyperechoic, i.e., active pancreatitis is suspected. A few small, hypoechoic nodules, most consistent with lymph nodes are noted throughout the mesentery. Obvious signs of neoplasia are not appreciated.

**Other**

**Lymph nodes**

A few small, hypoechoic nodules, most consistent with lymph nodes are noted throughout the mesentery surrounding the left limb of the pancreas.

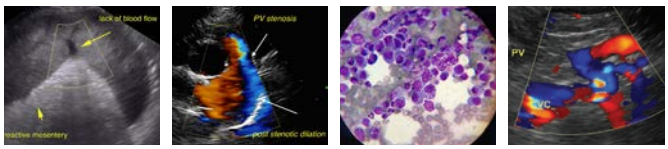
**Abdominal effusion**

None visualized.

## ULTRASONOGRAPHIC FINDINGS

- **Gastrointestinal tract**: The changes are suggestive of inflammation and a moderate ileus. An acute episode due to an underling *chronic enteropathy*, e.g. Inflammatory bowel disease, dysbiosis, EPI, etc., is suspected. However, early infiltrative disease, such as lymphoma, cannot be excluded with certainty. That is, biopsies are required to exclude neoplasia.

- **Pancreas**: *Active pancreatitis* is suspected. Signs of neoplasia are not appreciated.



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- **Kidneys:** *Age related degeneration* is suspected as a component of the renal changes observed. *Nephrolithiasis and mineralizations* are present, *without signs of an obstruction.* Pyelonephritis cannot be excluded despite the absence of classical sonographic findings and should still be considered.
- **Lymph nodes**: Absence of lymphadenomegaly, however, increased prominence of mesenteric lymph nodes, suggestive of *reactive hyperplasia*.
- **Liver:** Subclinical *hepatic lipidosis* due to hyporexia may be present.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The following are suggested/recommended

Current blood work would be ideal, consisting of a CBC, serum biochemical profile, SDMA, T4, urinalysis and urine culture and sensitivity to exclude pyelonephritis.

TLI, serum cobalamin, and folate to exclude cobalamin deficiencies and exocrine pancreatic insufficiency (EPI) and secondary dysbiosis. EPI often present in older cats.

Supplementation with cobalamin pending above results.

Arterial blood pressure once analgesia has been addressed.

Intravenous fluids for 48-72 hours; if not possible, subcutaneous fluids at home

Treatment for pancreatitis, most importantly, **analgesia**, such as *buprenorphine* (0.005-0.01 mg/kg, sublingually, every 8-12 hours) with or without gabapentin. Continue for 3-4 weeks, or longer, and then as needed, i.e. recurrent episodes are possible.

Other supportive care: addressing visceral pain will hopefully make Libby feel better. Anti-emetics (maropitant), famotidine SQ or IV or pantoprazole IV. If severe signs of nausea, ondansetron may be tried (0.1-0.5 mg/kg PO every 8-12 hours)

Once her appetite has returned, gradual introduction of a novel protein or hypoallergenic or hydrolyzed diet, however, ensure appetizing to avoid further weight loss, cachexia and sarcopenia.

If further diagnostics are declined, treatment with prednisolone (1 mg/kg/day) for 7-14 days followed by a tapering dose may be tried.

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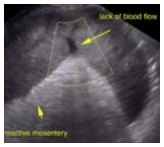
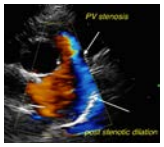
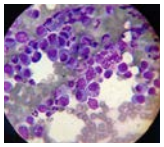
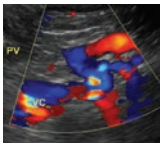

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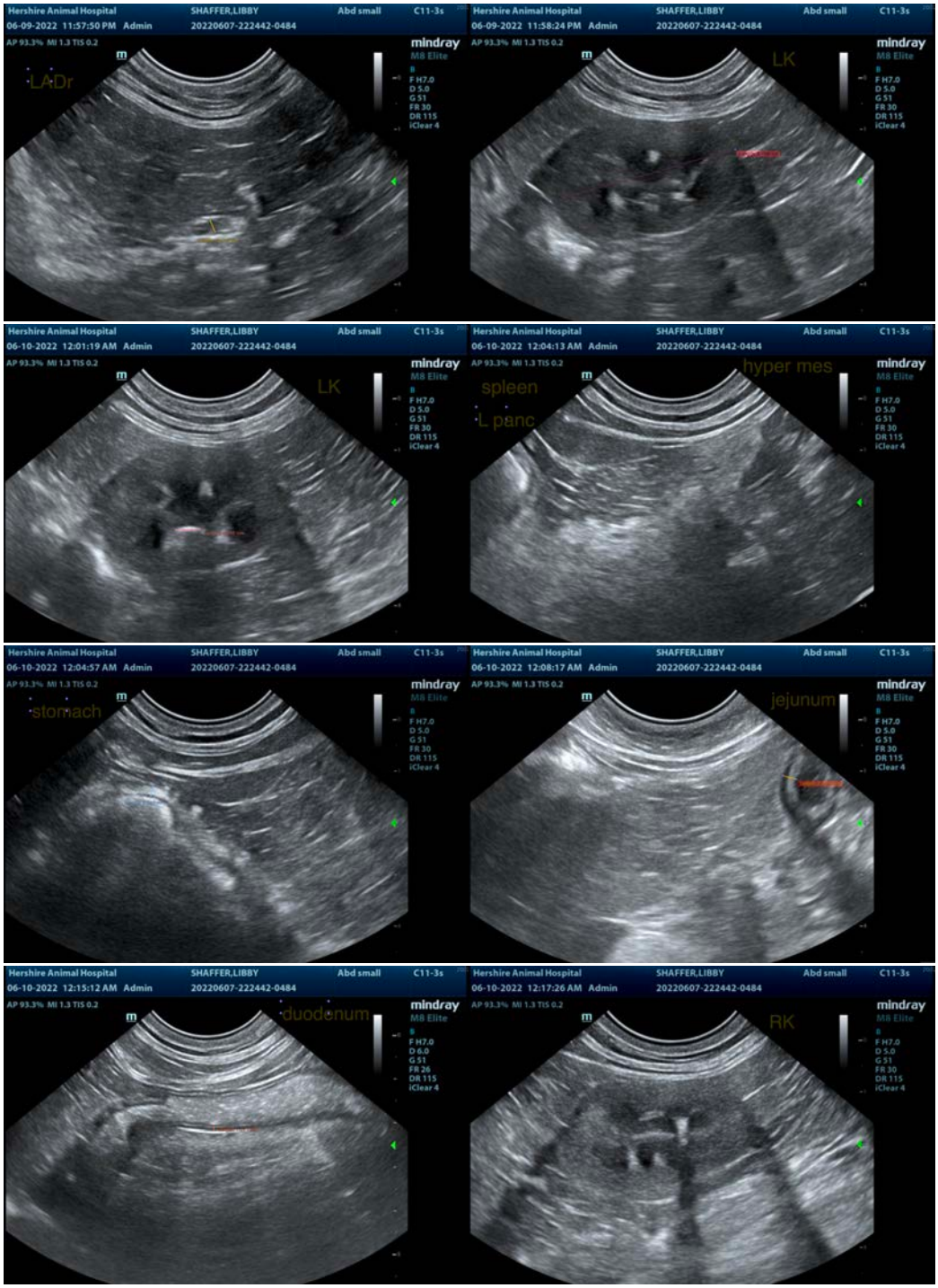

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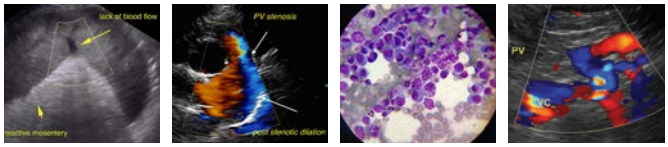

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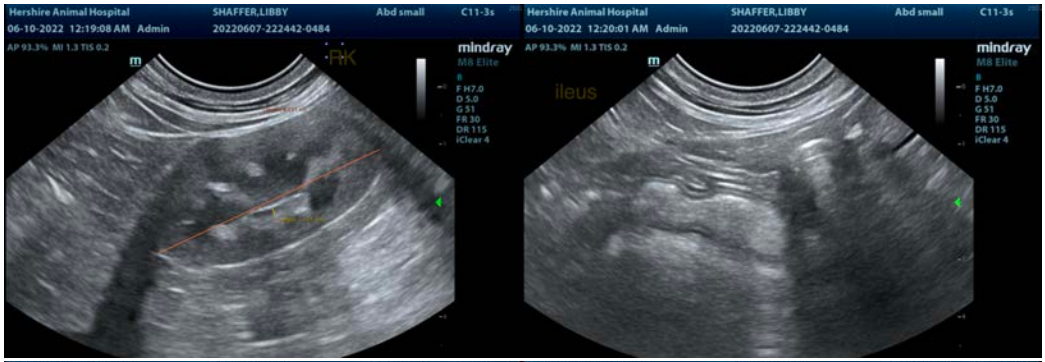


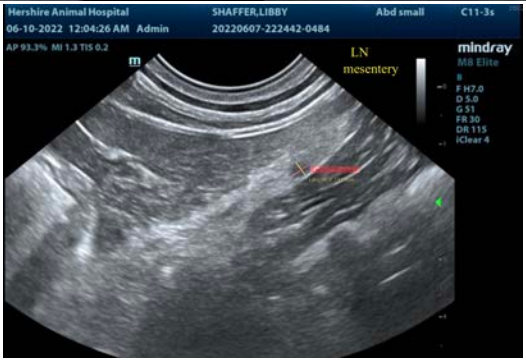


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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 ACVIM**

Lisa.Carioto@sonopath.com