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Clinical Sonography & Telecytology
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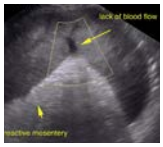
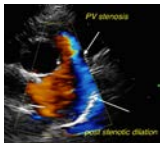
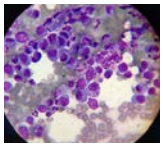
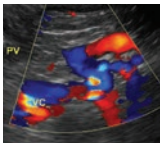





SonoPath.com™
1-800-838-4268 info@sonopath.com

**PATIENT**

Meatball Flickinger

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

14 Years

**WEIGHT**

7.7 Pounds

**INTERPRETED BY**

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

**IMAGING PERFORMED BY**

Susanne Bush

**HOSPITAL NAME**

Great Miami VC

**REFERRING VET**

Dr. Valerie White

**INVOICE**

41355

**DATE**

9/15/22

## PRESENTING CLINICAL SIGNS

Meatball presented for routine senior exam and was noted to have 2 pounds of weight loss since her last visit (October 2021). She was doing well at home other than an intermittent decreased appetite. She is taking fluoxetine due to inter cat aggression at home.

Abnormal PE/Chem/CBC/UA Results: Weight loss: 2 pounds CBC: mild lymphocytosis (5.9K, normal 0.85-5.85K), Mild leukocytosis (20.9K, normal 3.9-19.0K) Chem: renal values trending higher from previous blood work but still WNL, otherwise unremarkable U/A: SG 1.022, otherwise unremarkable On PE: 2 inch well demarcated mass on caudal ventral abdomen in the SQ space - aspirate consistent with lipoma

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney has a normal shape and size (2.5 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (3.2 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

### *Adrenal Glands*

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. No evidence of a mass effect.

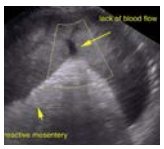
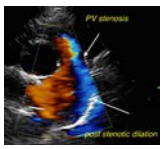
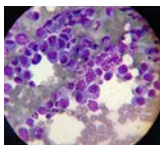
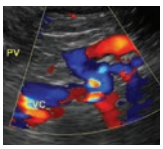
### *Spleen*

The spleen is subjectively normal in size (0.58 cm in width at the level of the hilus), echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

### *Liver*

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is mildly heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature appear normal. The bile ducts are hyperechoic and shadowing, consistent with mineralization of the bile ducts +/- biliary stones/sandy debris. No focal nodules or cystic lesions are observed.

The gallbladder is moderately distended with primarily anechoic fluid. There are small areas of hyperechoic shadowing material consistent with sandy debris, and some larger shadowing structures most consistent with small stones. Two such stones measure 0.64 cm and 0.32 cm. The bile duct

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appears thickened with some intraluminal sandy debris/small stones. Proximally it measures at 0.49 cm, and distally is measures 0.34 cm. A focal obstruction is not visualized.

### *Gastrointestinal*

The stomach is dilated with a large amount of fluid and irregular shadowing material most consistent with normal ingesta and gas. It measures at a normal thickness of <0.36cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layering is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with mild to moderate fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Jejunum wall measures 0.26 cm. Visualized peristalsis appears appropriate. There are some areas of small intestine that have moderate distention with fluid/chyme.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

### *Pancreas*

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

### *Free Abdomen*

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

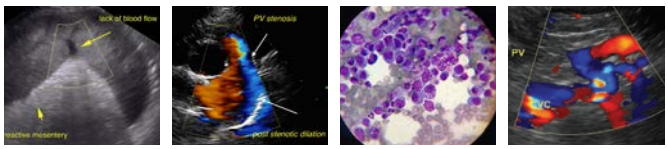
## ULTRASONOGRAPHIC FINDINGS

- Gallbladder stones with mineralization at the intrahepatic bile ducts and a dilated bile duct with intrahepatic sandy debris/small stones – There is no overt evidence of a complete obstruction, but there is likely chronic irritation and intermittent partial obstructions.
- Mildly heterogeneous liver with mineralized intrahepatic bile ducts – Hepatic changes are non-specific and could be consistent with inflammation/infection (cholangiohepatitis), infiltrative neoplasia, lipidosis or other hepatopathy.
- Large shadowing ingesta within the gastric lumen – Correlate with the feeding history and abdominal radiographs. If the patient was adequately fasted consider such differentials as delayed gastric emptying, a partial outflow tract obstruction (none seen) or ingested foreign material.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is significant mineralization of the intrahepatic biliary tract as well as stones within the gallbladder and a dilated thick-walled, tortuous bile duct with sandy debris. This is likely a chronic condition and can be seen with cholangiohepatitis/cholangitis. It is interesting that there is no liver enzyme elevations, so it is not clear if this is the primary problem or an incidental finding. I would recommend chronic Ursodiol therapy. Continued monitoring of the gallbladder and bloodwork for any evidence of a biliary obstruction +/- a course of antibiotics and probiotics.

There are nor focal GI lesions observed, but there is always the possibility of concurrent GI disease



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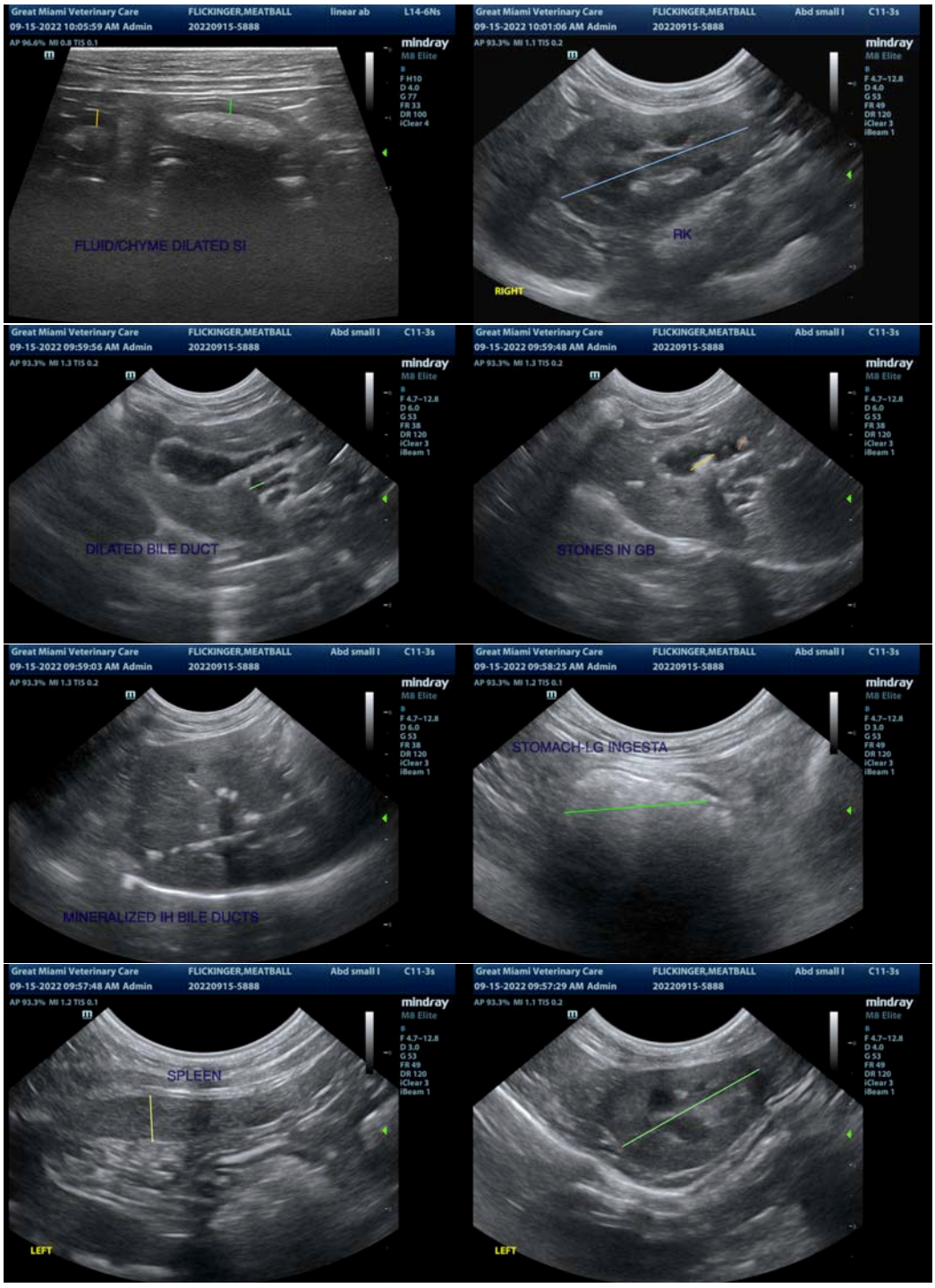
contributing to weight loss. Consider a GI panel to Texas A&M for a qualitative fPLI, TLI, cobalamin and folate to look for evidence of concurrent GI disease. If values are abnormal, you may want to pursue this as a concurrent diagnosis.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.



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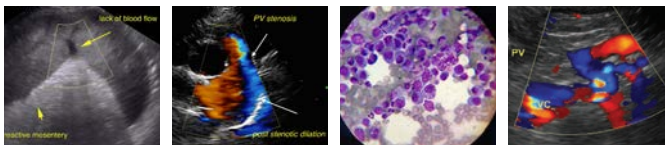

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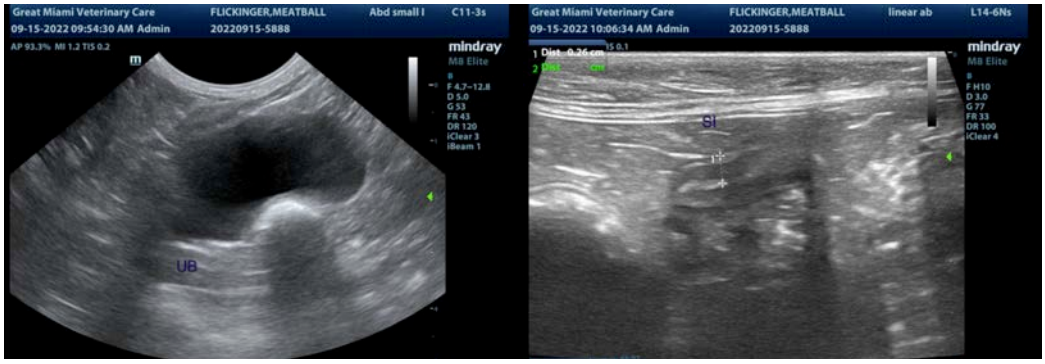


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

kathleen.sennello@sonopath.com