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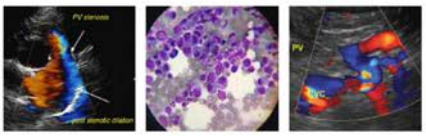

SonoPath
Clinical Sonography & Telecytology
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**PATIENT**

Ruka Maxfield 53454A

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

9 Years

**WEIGHT**

5.76 kg

**INTERPRETED BY**

Eric Lindquist, DMV

DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Tom McNeill

**HOSPITAL NAME**

SVS Imaging CT

**REFERRING VET**

Madison VS
Dr. Alucard

**INVOICE**

41296

**DATE**

9/14/22

## PRESENTING CLINICAL SIGNS

Ruka has been going in and out of litterbox frequently for the last 3 days or so. Over the last 24 hours, she has been going in and out constantly. Owners think Ruka may be constipated because they have witnessed her straining and she has only been producing very small, hard stools. Ruka has also only been producing small amounts of urine. Since yesterday, she has been eating less. She is still drinking. Ruka had one episode of vomiting last night. Owners also mentioned that they live across the country but have been living here all summer in an RV visiting with family so Ruka has been pretty stressed and has been overgrooming a lot, particularly in her urogenital area.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The **urinary bladder** presented concentric wall thickening with suspended dependent calculi, mucosal hypertrophy, and regional inflammation. The apex of the urinary bladder revealed a slight thickening measuring approximately 0.50 cm. This would be a position of a potential underlying urachal remnant with secondary hypertrophy and inflammatory changes.

The **right kidney** revealed an infarct at the caudoventral cortex adjacent to calculi, suggestive for comet tail infarct owing to movement of calculi. Minor inflammatory pattern noted. The right kidney presented minor degenerative changes otherwise without obstructive disease. The right kidney measured 3.44 cm.

The **left kidney** presented minor age related renal changes with slight mineralization. The left kidney measured 4.23 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 right adrenal gland measured 0.36 cm. The left adrenal gland measured 0.35 cm.

### *Spleen*

The **spleen** was mildly enlarged (1.19 cm) with uniform, but subtly micronodular parenchyma, and undulating capsular contour. This is consistent with reactive spleen owing to immune stimulus or early infiltrative disease such as mast cell disease or lymphoma. 25-gauge FNA would be ideal if weight loss is an issue to differentiate early round cell neoplasia versus splenitis or reactive spleen all of which can present in this manner.

### *Liver*

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

### *Gastrointestinal*

The **gastric** wall presented mild variable thickening without loss of mural detail. The intestinal submucosa was slightly irregular, thickened and hyperechoic suggestive of low grade, chronic disease. Intestinal wall thickness measured 0.33 cm. Focal duodenal thickening noted with hypertrophied muscularis up to 0.4 cm x 1.15 cm. No evidence of obstruction was present. Chronic inflammatory bowel disease is likely with a low possibility of an early neoplastic event such as lymphoma. Full thickness

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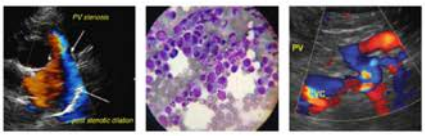

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tissue biopsies via open laparotomy, ideally guided by intraoperative ultrasound in order to obtain the most representative mural sample, would be necessary to rule out this possibility.

### *Pancreas*

The pancreas presented dilated duct at 0.20 cm. The pancreas measured 0.50 cm in width, fairly uniform architecture.

### *Free Abdomen*

Reactive mesenteric lymph nodes noted up to 1.75 cm 0.40 cm.

Sublumbar lymph nodes were enlarged, reactive, measuring 2.1 cm x 0.55 cm.

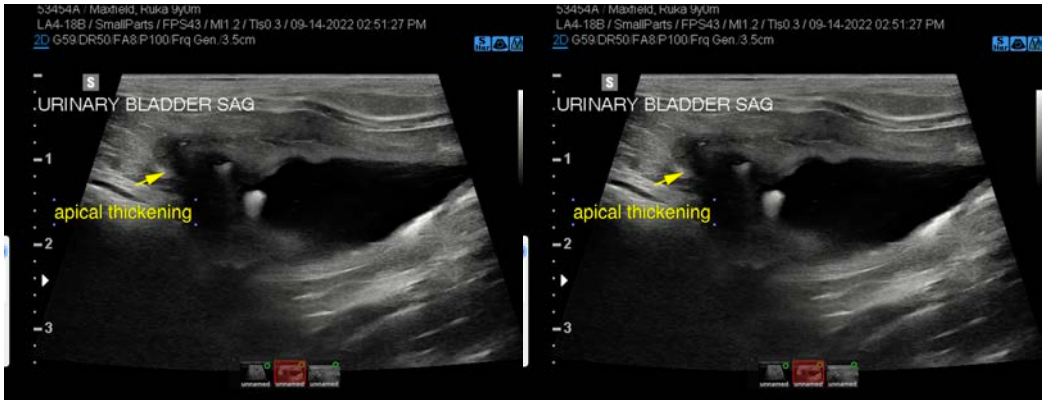
Scant anechoic free fluid noted in the abdomen, exact source is unclear.

## ULTRASONOGRAPHIC FINDINGS

- Cystitis pattern with small calculi
- Renal calculi with recent infarct with active inflammation of the right kidney
- Mesenteric and sublumbar lymphadenopathy with reactive patterns, however emerging round cell neoplasia is a potential.
- Focal duodenal thickening – potential emerging round cell neoplasia
- Minor age related pancreatic changes

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The patient is likely passing calculi periodically from the upper and lower urinary tract. FNA spleen and accessible lymph nodes recommended. Full urinary workup warranted. No obstructive disease noted at this time. However, urinary obstruction could occur at any time. Recommend cystotomy with bladder lavage, inspection of bladder integrity, biopsies, or full resection of the apical half of the urinary bladder with mural biopsies and culture. Intraoperative ultrasound upon the small intestinal mural lesion recommended with resection and anastomosis. Lymph node biopsies could be performed at that time.



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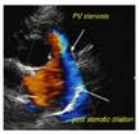
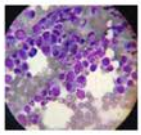
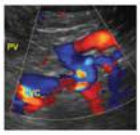

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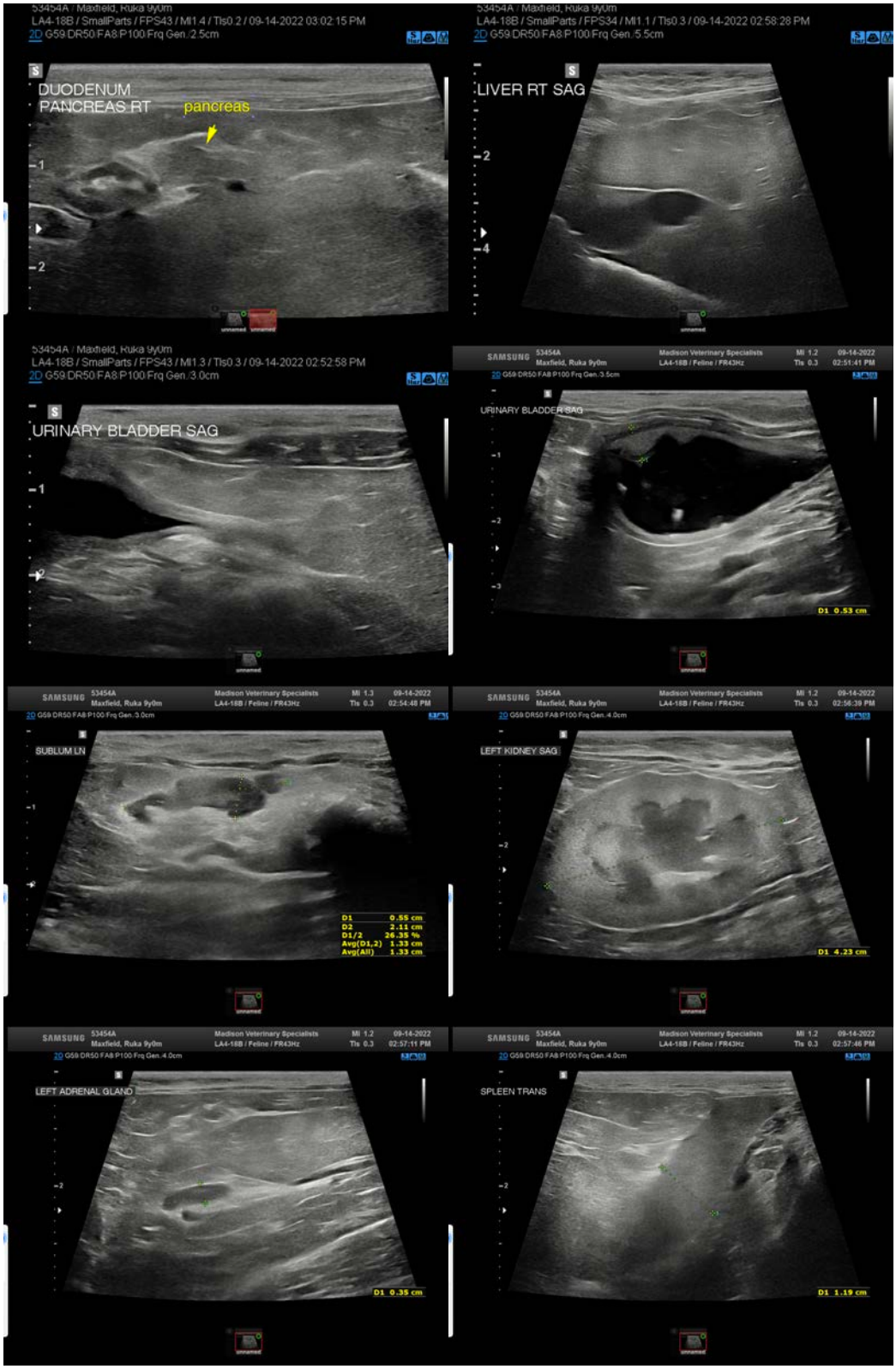

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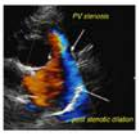
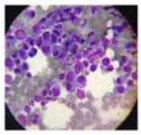
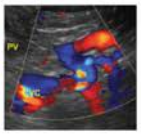

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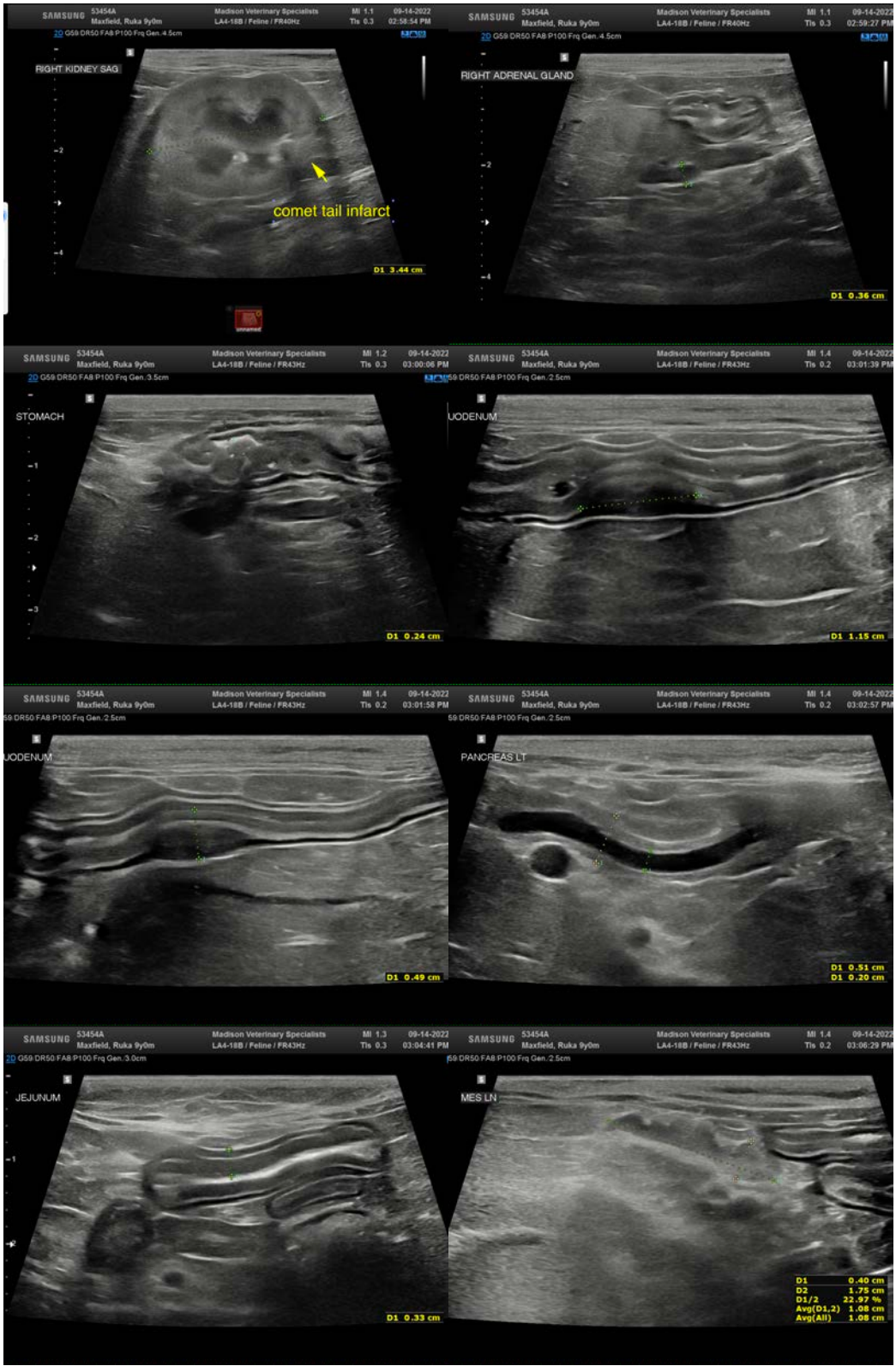

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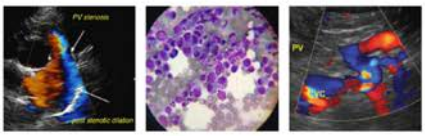

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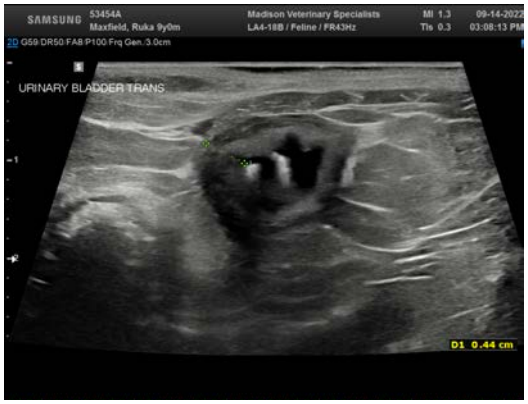


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

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

info@SonoPath.com