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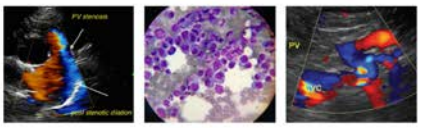

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Clinical Sonography & Telecytology
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PATIENT
Tundra Newman

SPECIES
Feline

BREED
Himalayan

SEX
Neutered Male

AGE
4 Years

WEIGHT
10 Pounds

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY
Sarah Pender, CVT

HOSPITAL NAME
SVS Imaging QC

REFERRING VET
Dr. Doerscher

INVOICE
39564

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7/15/22

PRESENTING CLINICAL SIGNS

Starting 7/8, P is lethargic, not eating or drinking and is hiding. O is syringe-feeding water & food and giving Cerenia. No sig improvement since then. No V or D, is Urinating & defecating normally. NPO for 13 hours prior to scan. No vomiting
Abnormal PE/Chem/CBC/UA Results: PE unremarkable, labs also pretty unremarkable RBC 7.37, HCT 42.7% (WNL); WBC & Plts WNL Creat 2.2, SDMA 8, BUN 30 ALT 37, ALP 15, T4 1.8 (all WNL) Fecal not run yet (O bringing sample on day of scan) Feline Triple NEG UA NSF, USG 1.025

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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 very small amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

The **prostate** is homogenous and measures 0.45 cm; within normal limits for a neutered male.

Kidneys

The **left** kidney measures 4.33 cm (3.80-4.40 cm). The capsule is smooth. Although the cortex is hyperechoic, i.e., it is moderately hyperechoic to the spleen, its overall architecture, including the definition of the cortico-medullary junction, is preserved. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 4.78 cm (3.80-4.40 cm); mild renomegaly is present. The capsule is smooth. The cortex is hyperchoic, i.e., it is hyperechoic to the liver. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

Aortic bifurcation/trifurcation No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.30 cm at the cranial pole, 0.31 cm at the caudal pole and 1.25 cm in length. It measures 0.44 cm at its widest diameter. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

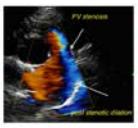
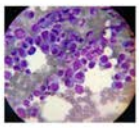
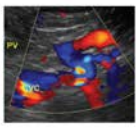
The **right** adrenal gland measures 0.34 cm at the cranial pole, 0.35 cm at the caudal pole and 0.92 cm in length. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

The spleen is within normal limits in size 8.1 mm (normal = 10 mm), echotexture, and the capsule is smooth. It is hypoechoic to the left kidney and the left limb of the pancreas. The clinical significance for this is unknown. The vasculature is not visualized directly, but no obvious signs of congestion or thrombi are noted.

Liver

There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The liver's echotexture is homogeneous and it is within normal limits in echogenicity. Focal lesions are not observed and no abnormalities are observed with the hepatic vessels.

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

Gastrointestinal

A significant amount of gas and ingesta are present within the lumen of the stomach despite Tundra having fasted 13 hours. The gastric wall is within normal limits in thickness. Wall layers are well defined except for one focal area in which the mucosa is thickened and the wall layers are no longer well differentiated. A mass-effect within the mucosa, measuring approximately 0.40 cm in diameter and 2.07 cm in length, is observed and can followed while sweeping along the stomach wall. Peristalsis is decreased.

The duodenum is at the high end of the normal reference range (0.28 cm). A moderate amount of gas, fluid and ingesta are present within the lumen of the duodenum. Peristalsis appears ineffective, i.e., a "to and fro" motion is observed. There is no evidence of a mass or infiltrative disease of the duodenum.

The small intestinal wall thickness varies between the normal reference range and thickened (up to 0.34 cm). Although the definition of the wall layers is preserved, the submucosa and muscularis are more prominent in some of the segments of jejunum. Abnormally dilated loops of bowel are not observed. There are no obvious signs of neoplasia.

Gas is present in the transverse colon.

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

Pancreas

The **left and right limb**s and **body** are mildly enlarged, prominent, and mildly hypoechoic. However, they remain homogeneous and have smooth and regular contours. The surrounding mesentery is mildly to moderately hyperechoic.

Other

Lymph nodes (LN)

A mesenteric LN is observed medial to the left kidney. It measures 0.59 cm x 0.97 cm. It is hypoechoic and mildly enlarged. The surrounding mesentery is moderately hyperechoic.

A few LNs in the region of the ileo-cecal junction are mildly hypoechoic and prominent, with mild hyperechogenicity of the surrounding mesentery; 0.34 cm in diameter x 0.48 cm in length.

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

- **Gastrointestinal tract**: A localized mass effect is visualized within the mucosa of the stomach. Although inflammation or a polyp remains a possible differential diagnosis, one must also consider neoplasia, for example, lymphoma or mast cell tumour, leiomyoma (benign) or leiomyosarcoma. The remainder of the gastrointestinal tract is mildly thickened with well-defined, but prominent wall layers. The latter may be due to a chronic enteropathy, e.g., inflammatory bowel disease, food intolerance, GI parasitism, etc., however, lymphoma or other round cell tumour, must also be considered.

- **Lymph nodes**: Reactive hyperplasia is suspected, however, infiltrative disease cannot be excluded, despite the absence of overt signs of neoplasia.

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- **Kidneys**: Both renal cortices are hyperechoic. This, in addition to a mild elevation of the creatinine and decrease in urine specific gravity may occur secondary to glomerulonephritis or pyelonephritis. An infectious cause of GN (leptospirosis) must also be excluded.
- **Pancreas**: Pancreatitis is suspected.
- **Spleen**: The diffuse hypoechogenicity of the spleen compared to the other organs may be due splenitis, extramedullary hematopoiesis or reactive hyperplasia. Infiltrative disease, such as a round cell tumour is another possible differential diagnosis, but is considered less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The following are suggested/recommended

Intravenous fluids would be ideal, otherwise, subcutaneous fluids may be considered

Endoscopy to obtain biopsies, a diagnosis and determine a treatment plan.

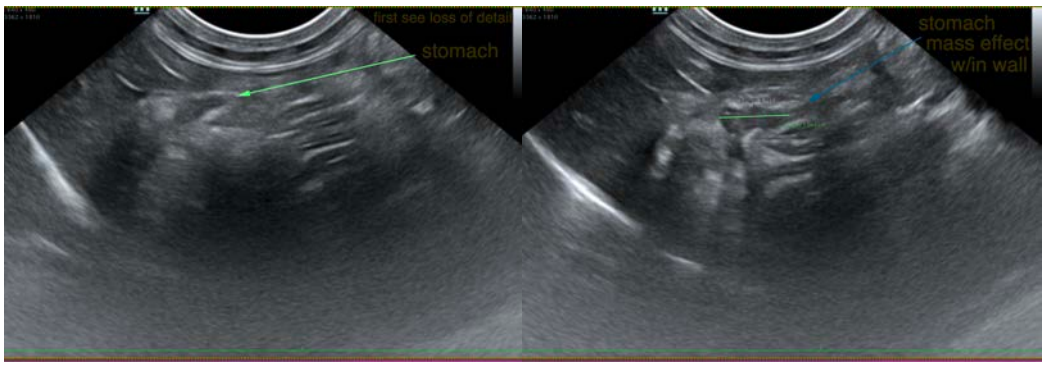
Exploratory laparotomy, with intraoperative ultrasound-guidance, to identify the mass effect to allow for surgical removal, histopathology, biopsy of lymph nodes, fine needle aspirate of spleen. This may be both diagnostic and therapeutic, depending on the diagnosis.

Treatment of pancreatitis, i.e. analgesics (buprenorphine 0.005-0.01 mg/kg sublingually every 8-12 hours for 10-21 days depending on response to therapy, antiemetics, appetite stimulants, etc.

Urine culture to exclude pyelonephritis (less likely, but should not be ignored).

Consider infectious disease, such as leptospirosis, if Tundra goes outdoors or if he lives with other pets who have access to outdoors.

Depending on response to above therapy, consider fine needle aspirate of spleen.



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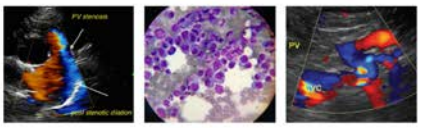

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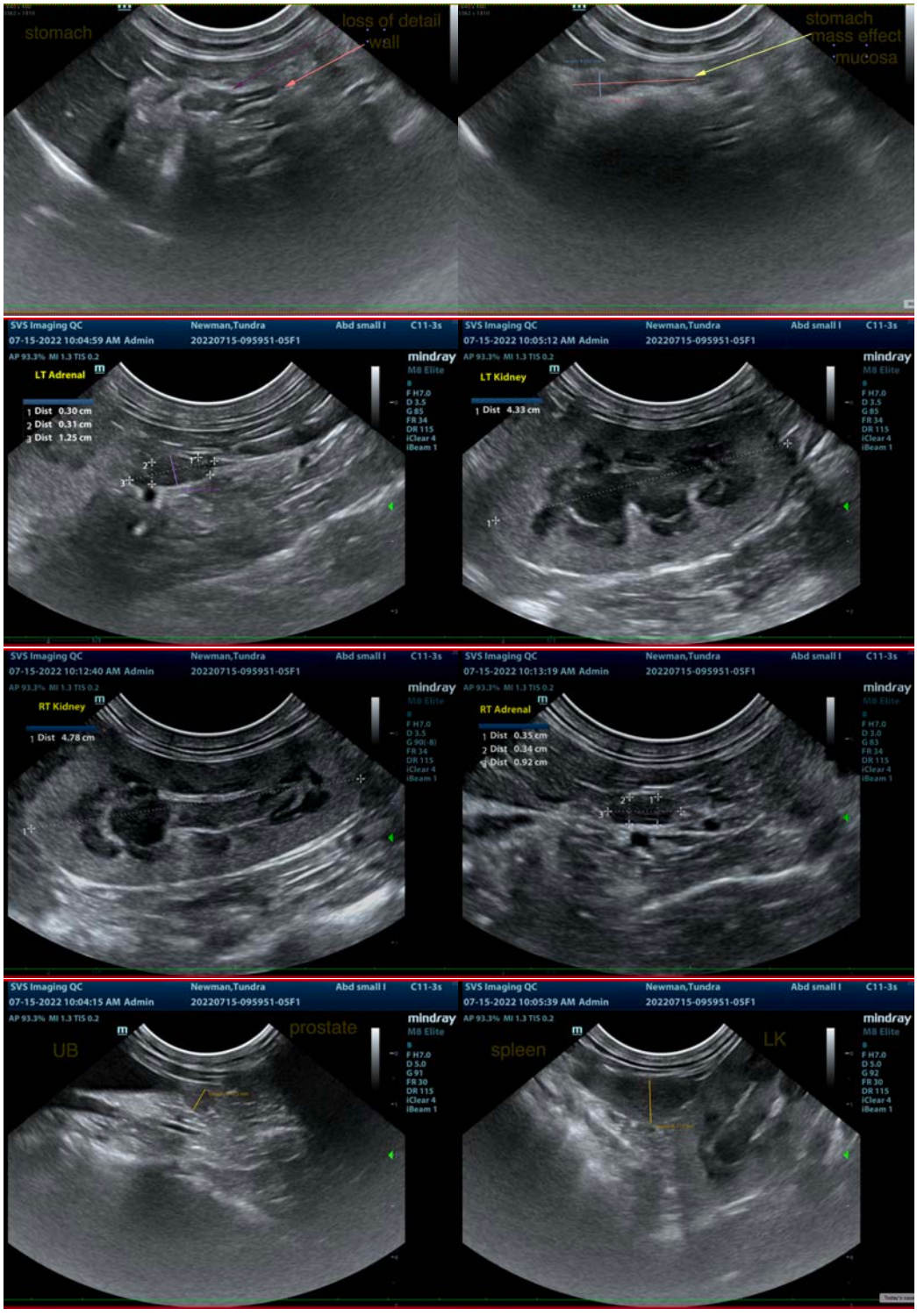

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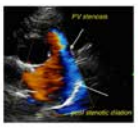
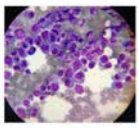
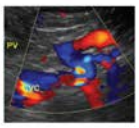

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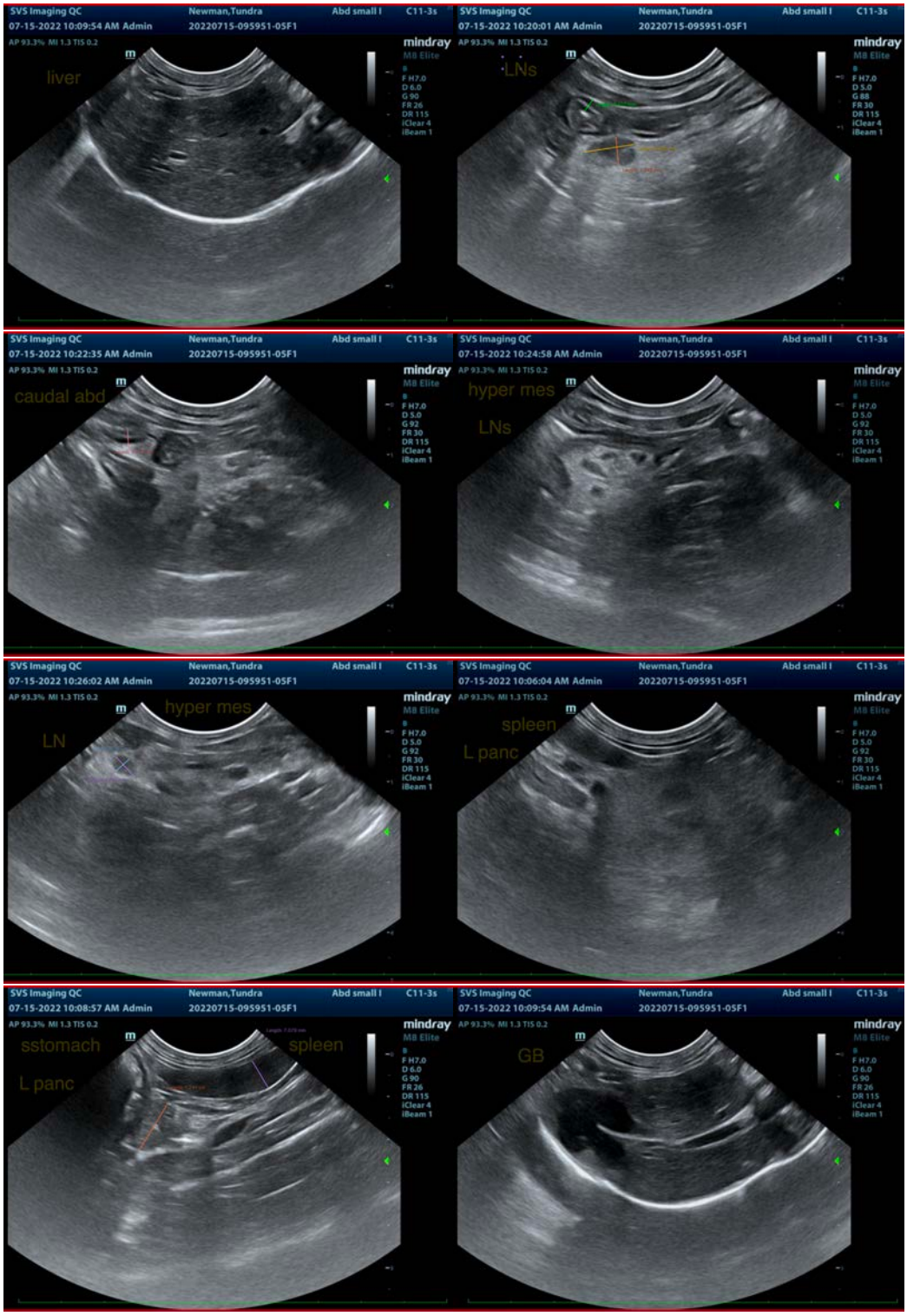

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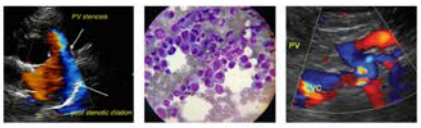

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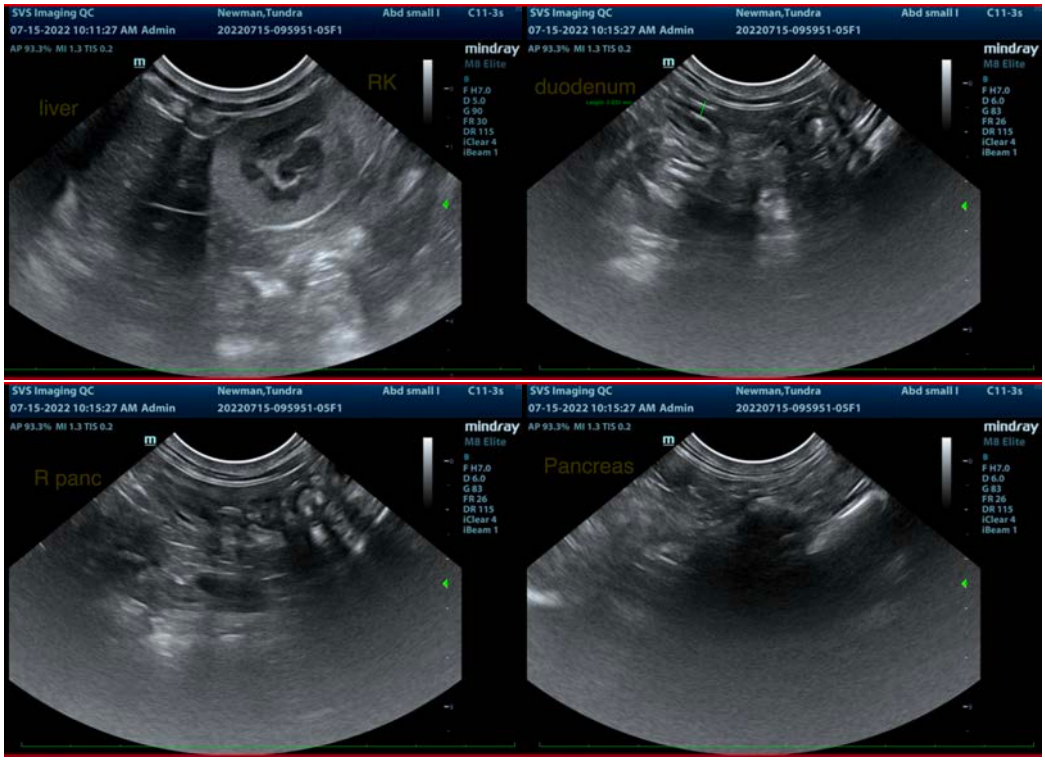

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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