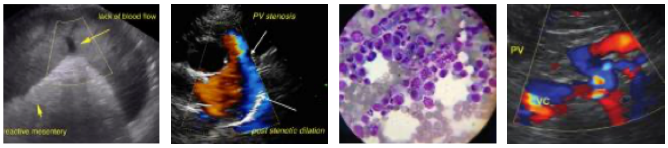
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Seumus Grinnell

SPECIES
Canine

BREED
Sheltie

SEX
Neutered Male

AGE
11 years

WEIGHT
12.6 kg

INTERPRETED BY
Andrea Nicastro, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)

IMAGING PERFORMED BY
Donna Markland, DVM

HOSPITAL NAME
Island Mobile Paws VS

REFERRING VET
Mahalo VH

INVOICE
12248

DATE
2.17.23

PRESENTING CLINICAL SIGNS

History: Seumus presented with GI signs on February 13th. He has a history of chronic/recurrent pancreatitis and is currently on a low-fat diet. Abnormal finding on PE on 2/13 included tense abdomen, 4/6 heart murmur with PMI at left heart base, and 4/4 dental disease. Bloodwork abnormalities included abnormal SNAP cPL, a mild non-regenerative anemia (path reviewed), and mildly increased ALP and Tbili. Seumus is currently taking the following medications: Cerenia (2 mg/kg PO q 24 hr); famotidine, 0.5 mg/kg q 12 hr; omeprazole, 1 mg/kg PO q 24 hr; gabapentin, 20 mg/kg PO q 8-12 hr; and codeine, 1.2 mg/kg q 12 hrs. Other medical history includes a late-age neuter surgery. Seumus had trazodone in addition to gabapentin the night before this scan.

Abnormal PE/Chem/CBC/UA Results: 2/13/23 CBC: HCT=0.365 (0.42-0.62) RBC=5.04 (5.0-8.9) Reticulocytes less than 1% Chem: ALP=215 (23-212) TBili=17 (0-15) SNAP cPL=abnormal (Total T4=normal at 29)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder wall is normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with anechoic urine. No masses, inflammatory changes or calculi are observed. The region of the trigone and visible portion of the proximal urethra are normal.

The prostate is prominent in size (1.39 cm in width) with smooth curvilinear peripheral contours. A 1.35 x 0.45 cm cystic lesion is observed within the parenchyma. The remaining parenchyma is slightly heterogenous in appearance. The prostatic urethra is not overtly dilated.

The left kidney is normal in size (4.72 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild to moderate loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

The right kidney is normal in size (4.92 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild to moderate loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size (0.56 cm at cranial pole) (0.62 cm at caudal pole) (1.88 cm in length) with a normal shape and homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is in normal size (0.73 cm at cranial pole) (0.54 cm at caudal pole) (1.69 cm in length) with a normal shape and homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen

The spleen is subjectively normal in size (1.04 cm in width at the level of the hilus) with a slightly irregular contour at the craniolateral aspect. There is appropriate echogenicity and echotexture. A 0.91 cm ill-defined hypoechoic nodule is visualized. A 0.75 cm ill-defined hyperechoic area is observed in the region where there is a deviation in the peripheral margin (craniolateral aspect). Splenic vasculature is normal.

Liver
The liver is normal to slightly prominent in size with normal curvilinear peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely homogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion.

The gall bladder lumen is moderately distended. The wall is thin and smooth. A small to moderate amount of partially dependent echogenic debris/sludge is observed within the lumen. The cystic and common bile ducts are normal/not seen.

Gastrointestinal
The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

Pancreas
The base and limbs of the pancreas are normal in size with normal curvilinear peripheral contours. The parenchyma is isoechoic to hyperechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion.

Free Abdomen
The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

Secondary Findings

- Bilateral chronic age-related renal changes with dystrophic mineralization
- The prostate changes are most consistent with residual benign hyperplasia with parenchymal cysts. However, an emerging tumor cannot be completely excluded.
- Suspected benign diffuse hepatopathy. Vacuolar hepatopathy (i.e., idiopathic/endocrine) is the top differential, particularly in light of the normal ALT.
- The gall bladder debris/sludge could be consistent with cholestasis, fasting, or an emerging mucocele.
- The hypoechoic splenic nodule trends toward the benign (i.e., focus of lymphoid hyperplasia or similar). The hyperechoic area at the craniolateral aspect may represent an old infarct, myelolipoma, focus of lymphoid hyperplasia, or other pathology.

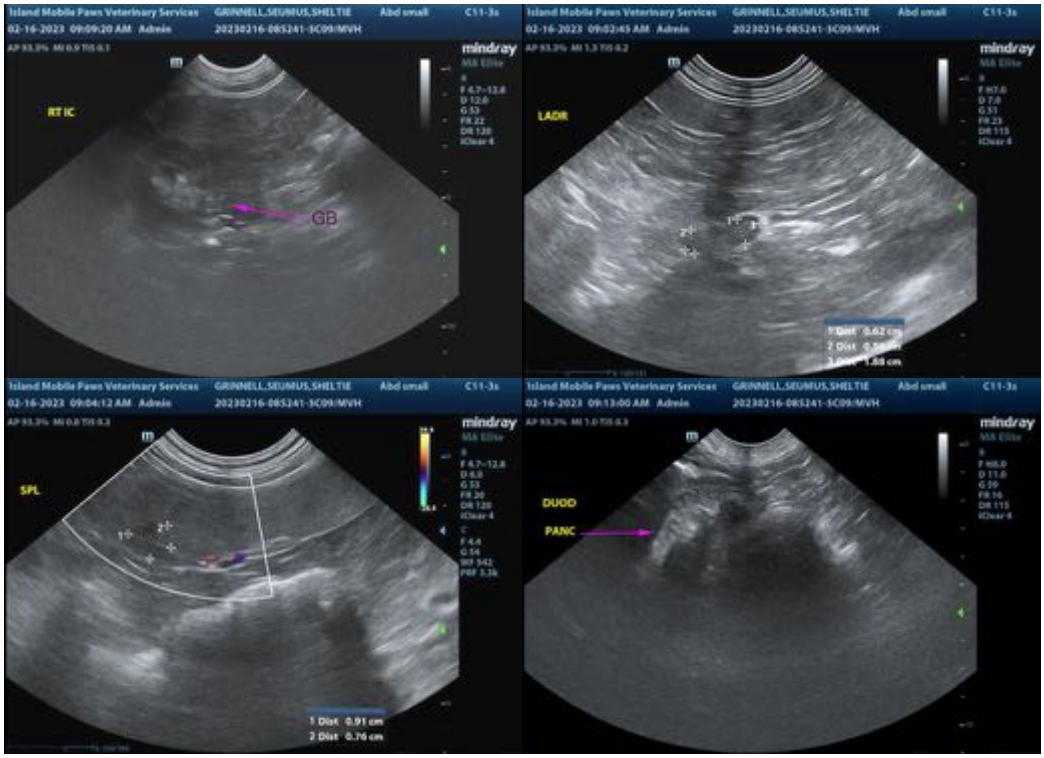
*Although the pancreas appears abnormal, active inflammation is not definitively identified in this study. Low-grade pancreatitis, however, cannot be completely excluded. Alternatively, microscopic gastrointestinal disease (i.e., infectious/parasitic disease, food allergy, inflammatory bowel disease) is also a possible cause for the intermittent GI signs.

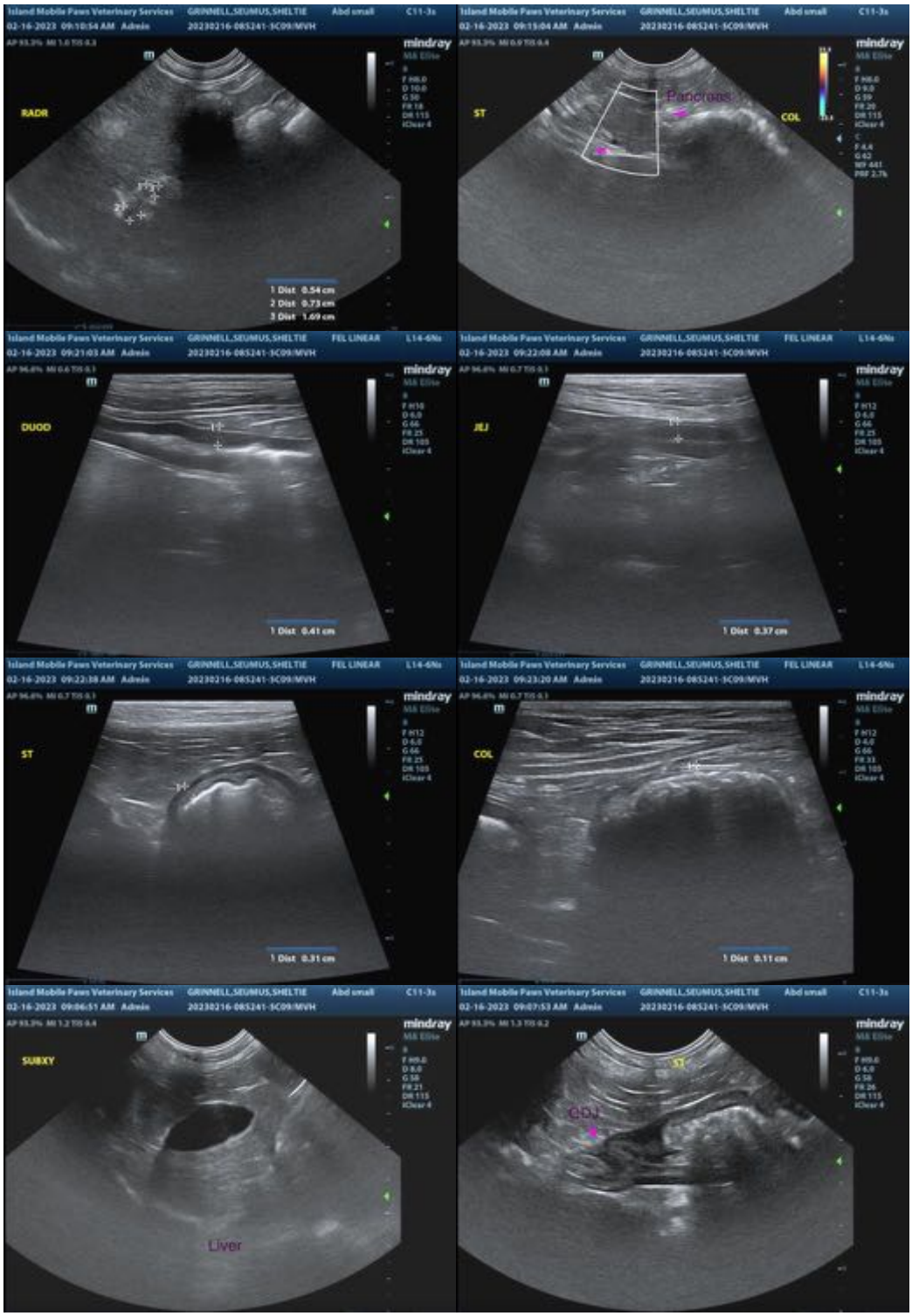
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- To further evaluate for gastrointestinal or other disease processes that may cause GI upset, consider the following:

    1. Fecal evaluation for ova and Giardia (if not already performed)
    2. Malabsorption panel, including serum cobalamin and folate, TLI and PLI, and resting cortisol level
    3. Consider transitioning to a low-fat, limited antigen diet.
    4. Also consider initiation of a probiotic.
    5. Ultimately, GI biopsies may be necessary to get a definitive diagnosis.

- Regarding the elevated ALP, serial monitoring (i.e., every 3 months) of the patient's liver values is recommended to assess for progression. If values continue to increase, a repeat abdominal ultrasound +/- hepatic tissue sampling, may be warranted.





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.

Andrea Nicastro, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)
info@SonoPath.com