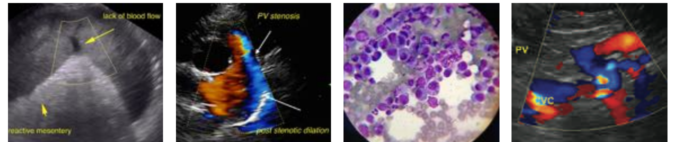
SonoPath

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Nellie Reedel

SPECIES

Canine

BREED

Jack Russell Terrier

SEX

Female

AGE

8 months

WEIGHT

6 kg

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Donna Markland, DVM

HOSPITAL NAME

Island Mobile Paws VS

REFERRING VET

Central Island Veterinary Emergency

INVOICE

30773

DATE

5/28/22

PRESENTING CLINICAL SIGNS

On pre-OVH bloodwork on March 9, Nellie had an elevated ALT. The surgery was postponed. After 2 weeks of Clavamox, the values were normal one month later. On 5/4, another pre-surgical panel was taken and Nellie again had an elevated ALT. On 5/5, she had an elevated post-prandial bile acid result. Nellie has no clinical signs of a PSS, but given her breed, the clinician wanted an ultrasound prior to OVH.
Abnormal PE/Chem/CBC/UA Results: 3/9/22: ALT=227 (10-125) 4/4/22 (post-antibiotics): ALT=54 5/4/22 ALT=134 5/5/22: pre-prandial bile acids=1.4 (0-14.9) post-prandial=34.8 (0-29.9)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is well distended with anechoic contents. The wall is smooth and regular. No abnormalities are noted with the trigone, and there is no evidence of cystoliths, polyps or a mass. A trivial amount of free floating sediment is noted.

Kidneys

The **left** kidney measures 3.95 cm. The capsule is smooth. 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 4.33 cm. The capsule is smooth. 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.

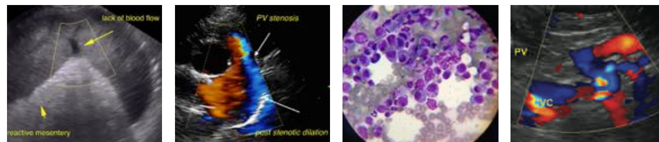
Adrenal Glands

The **left** adrenal gland measures 0.34 cm at the cranial pole, 0.32 cm at the caudal pole and 1.57 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.

The **right** adrenal gland measures 0.32 cm at the cranial pole, 0.27 cm at the caudal pole and 1.73 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, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.



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Liver

There are no obvious signs of hepatomegaly or severe microhepatica. However, the liver may be slightly smaller than normal, or Nellie may be quite deep chested. Liver size is better characterized radiographically. The liver's borders are smooth, but very mildly rounded. The liver's echotexture is homogeneous and it is within normal limits in echogenicity. Focal lesions are not observed. An obvious portosystemic shunt is not visualized.

The gallbladder (GB) is mildly 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 dilated or tortuous, i.e. there are no signs of an obstruction.

Gastrointestinal

Ingesta is present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved. Abnormally dilated loops of bowel are not observed.

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

There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction in the gastrointestinal tract.

Pancreas

No overt abnormalities are observed with the architecture, smooth contours, echogenicity or echotexture of the pancreas. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.

Other

Lymph nodes No abnormalities observed

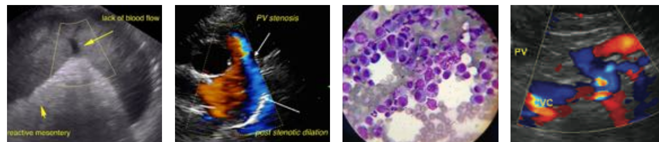
Abdominal effusion is not visualized.

Ovaries not visualized.

Uterus No abnormalities observed

ULTRASONOGRAPHIC FINDINGS

- **Liver**: An obvious portosystemic shunt is not visualized. A cause of the elevated ALT enzyme activity is not identified. Differential diagnoses include hypoplasia of the portal vein (HPV, previously known as microvascular dysplasia), hepatitis (immune-mediated, infectious causes, toxin exposure, medications, natural supplements, etc.). An ascending bacterial infection from the GI tract cannot be excluded. There are no obvious signs of cholecystitis, cholangitis/cholangiohepatitis.



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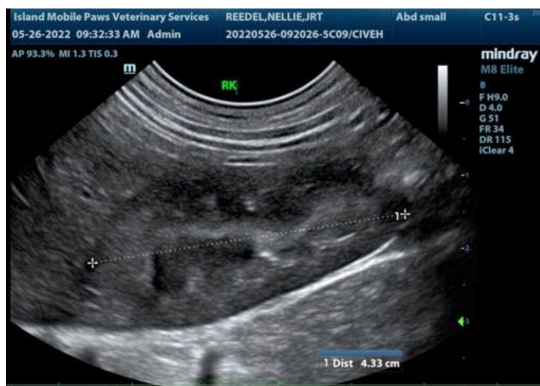
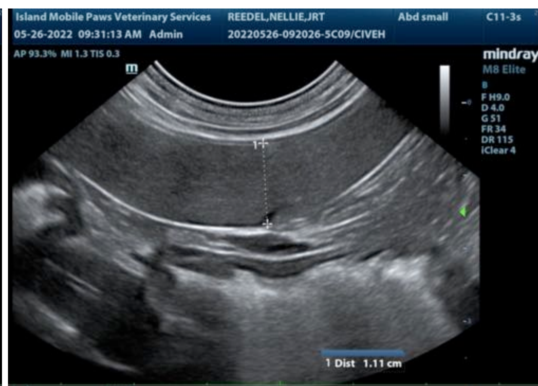
- **Adrenal glands**: Echogenicity and echotexture are WNL, however, both are thinner than what is usually expected. Although this may be normal for this patient, a baseline (random) cortisol is suggested to exclude hypoadrenocorticism.

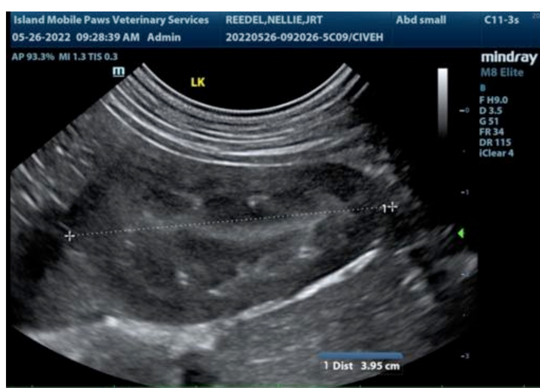
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

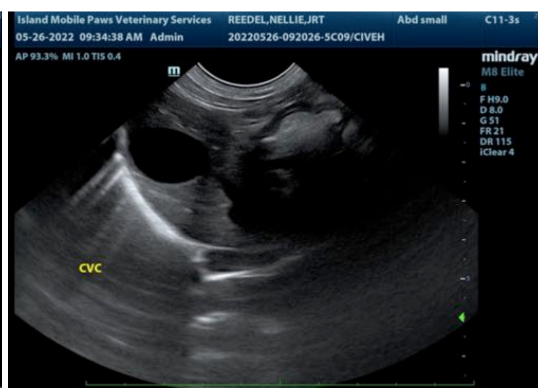
The following are suggested

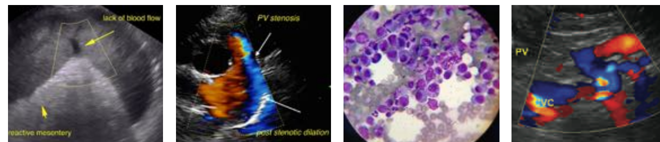
- Baseline (random) cortisol to exclude hypoadrenocorticism.
- Hepatic biopsy of liver at time of ovariohysterectomy (OVH), with culture, +/- copper quantification
- Coagulation profile prior to OVH
- Vitamin K (0.5 mg/kg SQ x 1 dose), 45-60 minutes prior to sedation for OVH, even if PT/PTT within normal limits.
- If hepatic biopsy not an option, consider protein C concentration and evaluate CBC for microcytosis (sign of PSS or HPV).











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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