



PATIENT

Nora Mitchell

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Spayed Female

AGE

5 Years

WEIGHT

5.88 kg

INTERPRETED BY

Eric Lindquist, DMV,
DABVP (CFM), Cert.
IVUSS

IMAGING PERFORMED BY

Rebecca Hamilton

HOSPITAL NAME

Silver Creek Animal
Clinic

REFERRING VET

Dr. Ceremuga

INVOICE

72974

DATE

1/6/26

PRESENTING CLINICAL SIGNS

Pet is not showing any clinical symptoms. PE is NSF other than pet recently diagnosed w/ inherited cataracts by oph. Presented for routine bloodwork on 12/19 in prep for cataract sx, at this point, we are looking for an explanation for elevated AlKP. Concerned about biliary disease/ shunt/primary liver.

Abnormal PE/Chem/CBC/UA Results: 12/19 ALT was mildly elevated and ALP markedly elevated. Bile acid test was moderately elevated pre-prandial and markedly elevated post-prandial.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction.

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. Left kidney measured 4.37 cm. Right kidney measured 4.53 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. Left measured 1.4 cm x 0.49 cm at the caudal pole and 0.30 cm at the cranial pole. Right measured 1.46 cm x 0.55 cm at the cranial pole and 0.40 cm at the caudal pole.

Spleen

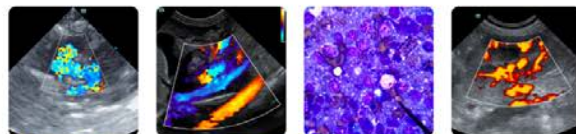
The **spleen** was folded upon itself caudally. It presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

Liver

The **liver** presented normal size, with slight coarse architecture. The gallbladder and common bile duct were unremarkable. Portal vein measured 0.54 cm prior to the trifurcation. No evidence of extrahepatic shunting. Intrahepatic vascular volume appeared to be normal. Vena cava measured 0.50 cm.

Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.



PATIENT

Pancreas

Nora Mitchell

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

SPECIES

Canine

ULTRASONOGRAPHIC FINDINGS

BREED

- Minor hepatic remodeling with relatively normal hepatic size.
- Folded spleen.

Yorkshire Terrier

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

SEX

No evidence of macroscopic shunting. Parenchymal disease is suspected as cause of the bile acid elevation. Liver biopsy would be necessary for further definition if bile acids remain elevated despite empirical measures. No overt cause of ALP elevation. There can be many causes. Breed variant versus underlying endocrinopathy or benign hepatopathy possible. No evidence of significant disease. Screening FNA of the liver could be considered for further definition, or endoscopy guided core biopsies. Yet subjectively, the liver appears benign with normal macrovascular patterns..

Spayed Female

AGE

5 Years

Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy

WEIGHT

5.88 kg

Royal Canin Hepatic Support diet or Hills L/D, Metronidazole (7.5 mg/kg PO bid) over the next 14 days, Lactulose (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base) long term to target 2-3 soft stools/day, with a high-quality protein supplement of minor amount of yogurt or cheddar cheese. Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. Same and nutraceuticals as needed. **Ursodiol (10-15 mg/kg p.o. q24h)** can be considered as hepatoprotectant and to enhance bile flow. **Zinc** serum level keep between 200–500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic.

INTERPRETED BY

Eric Lindquist, DMV,
DABVP (CFM), Cert.
IVUSS

IMAGING PERFORMED BY

Rebecca Hamilton

HOSPITAL NAME

Silver Creek Animal
Clinic

REFERRING VET

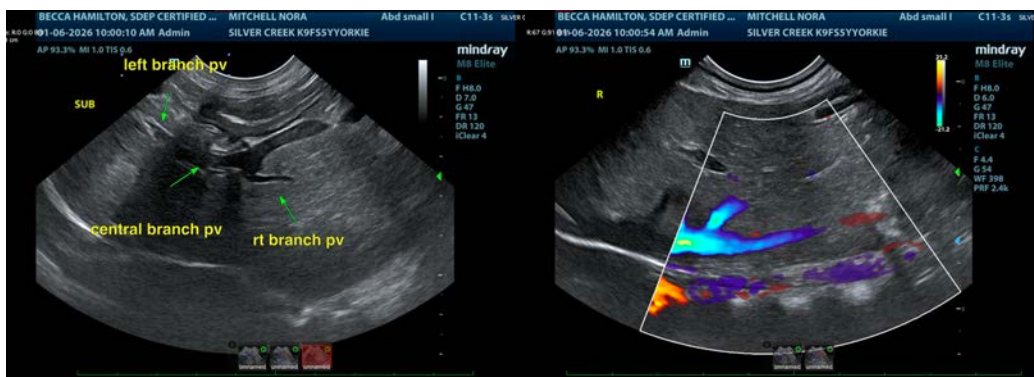
Dr. Ceremuga

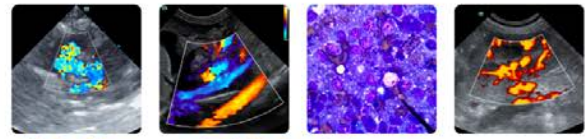
INVOICE

72974

DATE

1/6/26





PATIENT

Nora Mitchell

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Spayed Female

AGE

5 Years

WEIGHT

5.88 kg

INTERPRETED BY

Eric Lindquist, DMV,
 DABVP (CFM), Cert.
 IVUSS

IMAGING PERFORMED BY

Rebecca Hamilton

HOSPITAL NAME

Silver Creek Animal
 Clinic

REFERRING VET

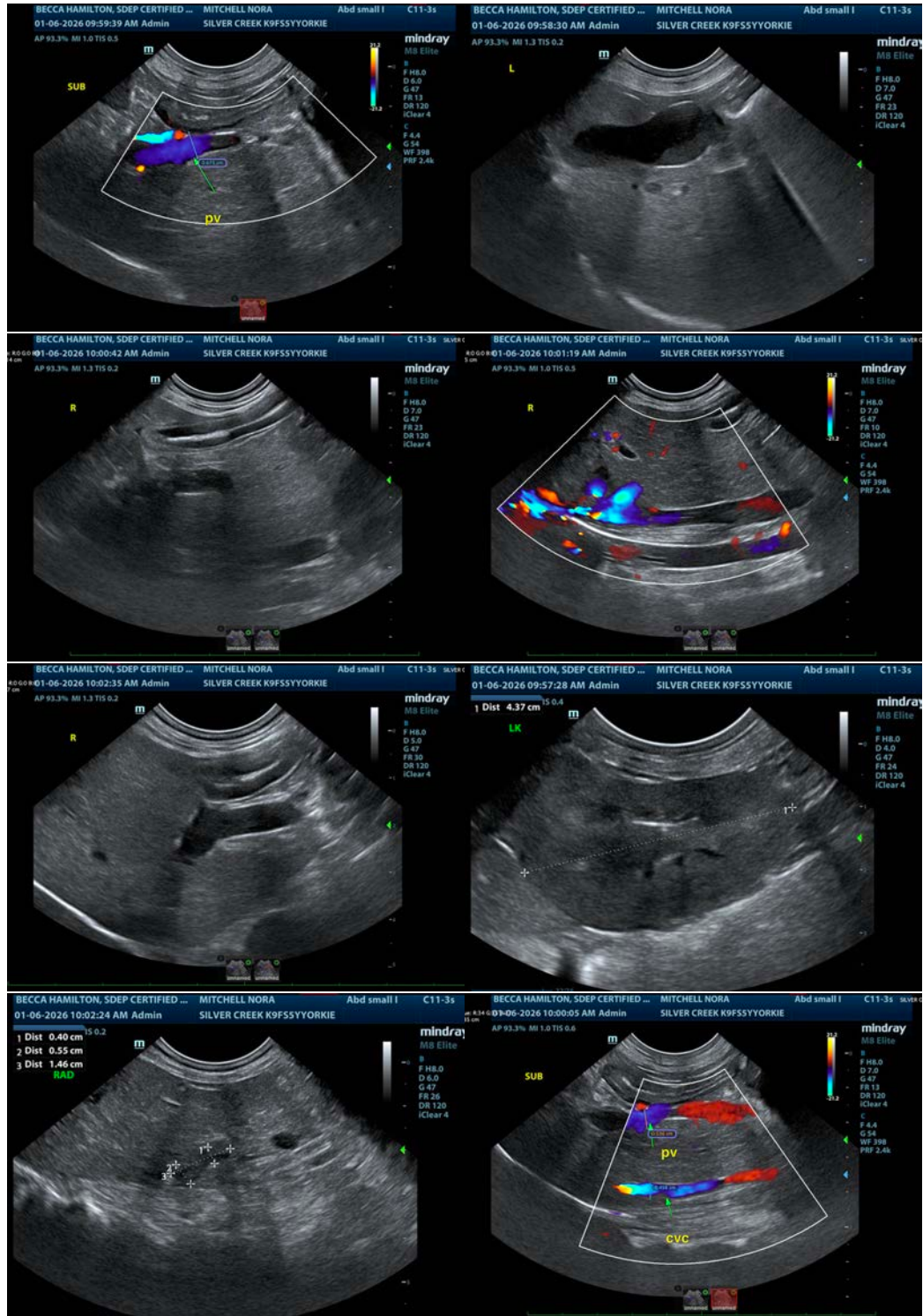
Dr. Ceremuga

INVOICE

72974

DATE

1/6/26





PATIENT

Nora Mitchell

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Spayed Female

AGE

5 Years

WEIGHT

5.88 kg

INTERPRETED BY

Eric Lindquist, DMV,
DABVP (CFM), Cert.
IVUSS

IMAGING PERFORMED BY

Rebecca Hamilton

HOSPITAL NAME

Silver Creek Animal
Clinic

REFERRING VET

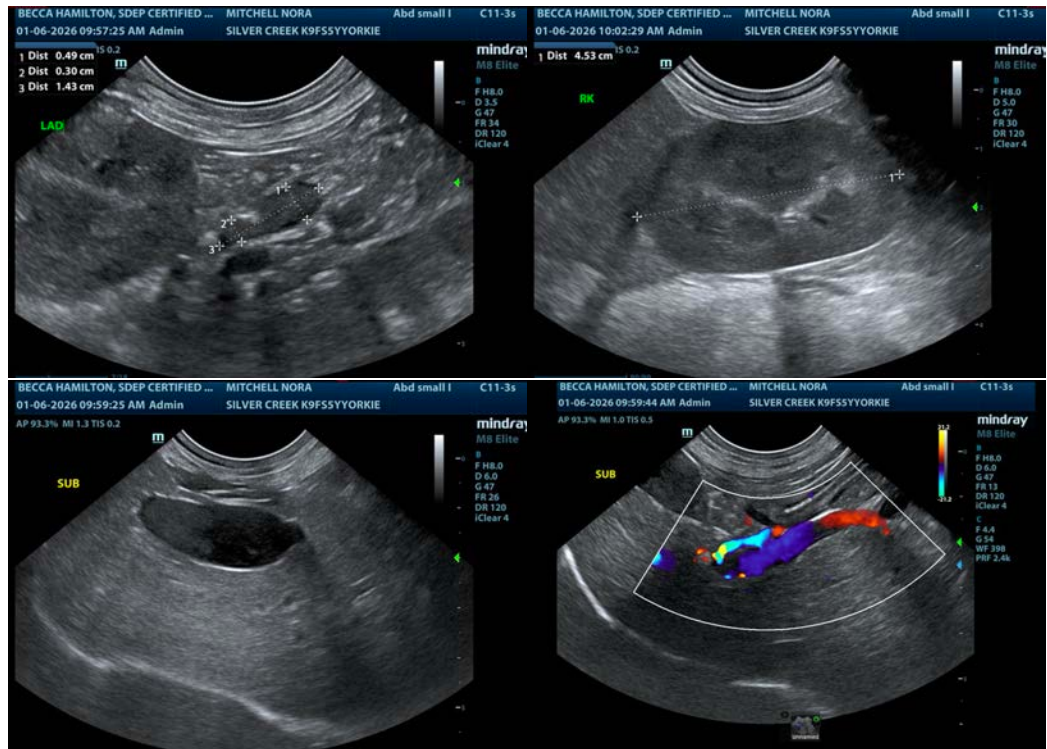
Dr. Ceremuga

INVOICE

72974

DATE

1/6/26



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(CFM), Cert. IVUSS,
CEO, Owner, Founder -- SonoPath.com
info@SonoPath.com