

PATIENT

Aretha Ferrusca

SPECIES

Canine

BREED

Chihuahua

SEX

Intact female

AGE

7 months

WEIGHT

5.9 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUS

IMAGING PERFORMED BY

Potomac Mobile
Veterinary Ultrasound

HOSPITAL NAME

Anicura VC

REFERRING VET

Dr. Jarrett

INVOICE

91862

DATE

9/15/21

PRESENTING CLINICAL SIGNS

History: Elevated liver values and abnormal bile acids test. Looking for shunt vs MVD. Small, but not overly thin. Eats well, no V/D. No seizures.

Abnormal PE/Chem/CBC/UA Results: Bile Acids pre- 58.5, post 13.5

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 was noted. Ureteral papillae were normal.

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. The right kidney measured 2.83 cm. The left kidney measured 2.31 cm.

Adrenal Glands

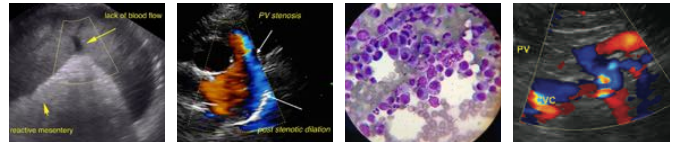
Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 1.16 x 0.2 cm at the cranial pole and 0.27 cm at the caudal pole.

Spleen

The **spleen** 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 was noted.

Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. The portal vein measured 0.4 cm, vena cava 0.5 cm at the portal hilus. There was no obvious extrahepatic portosystemic shunting. The intrahepatic vascularity was normal and of adequate volume. The hepatic veins were of normal volume. 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.



PATIENT

Gastrointestinal

Aretha Ferrusca

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.

SPECIES

Canine

BREED

Chihuahua

Pancreas

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.

SEX

Intact female

ULTRASONOGRAPHIC FINDINGS

Microhepatica. No evident portosystemic shunting.

AGE

7 months

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

WEIGHT

5.9 lbs

Given the portal vein to vena cava ratio was relatively normal I am concerned for portal hypoplasia in this patient with the opportunity to perform liver biopsy and eventual ovariohysterectomy in this patient given that the bile acids are only mildly elevated. Portal hypoplasia is most likely.

Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy

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, Cert. IVUSS

IMAGING PERFORMED BY

Potomac Mobile
Veterinary Ultrasound

HOSPITAL NAME

Anicura VC

REFERRING VET

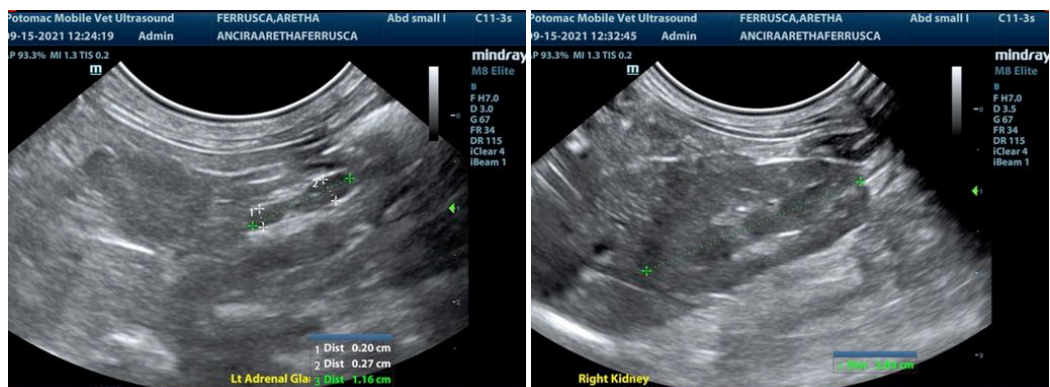
Dr. Jarrett

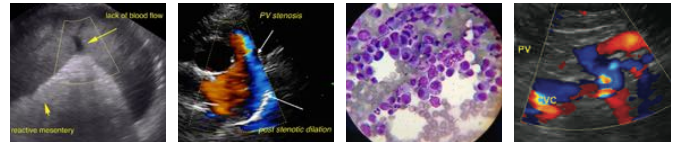
INVOICE

91862

DATE

9/15/21





PATIENT

Aretha Ferrusca

SPECIES

Canine

BREED

Chihuahua

SEX

Intact female

AGE

7 months

WEIGHT

5.9 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Potomac Mobile
Veterinary Ultrasound

HOSPITAL NAME

Anicura VC

REFERRING VET

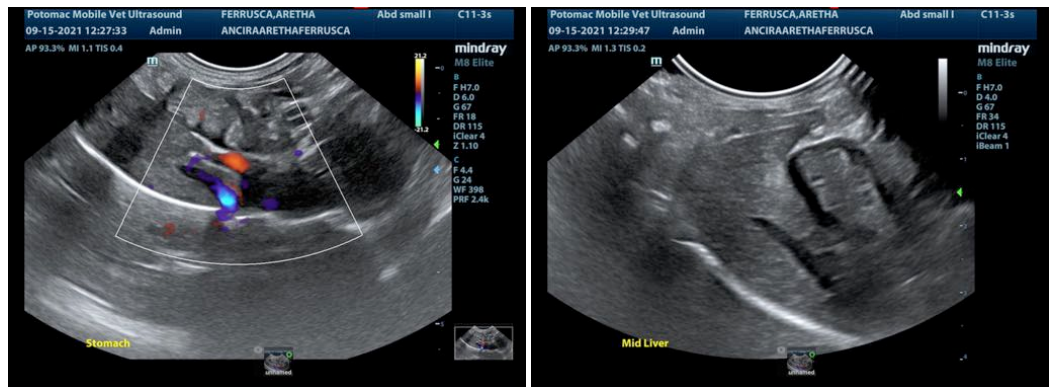
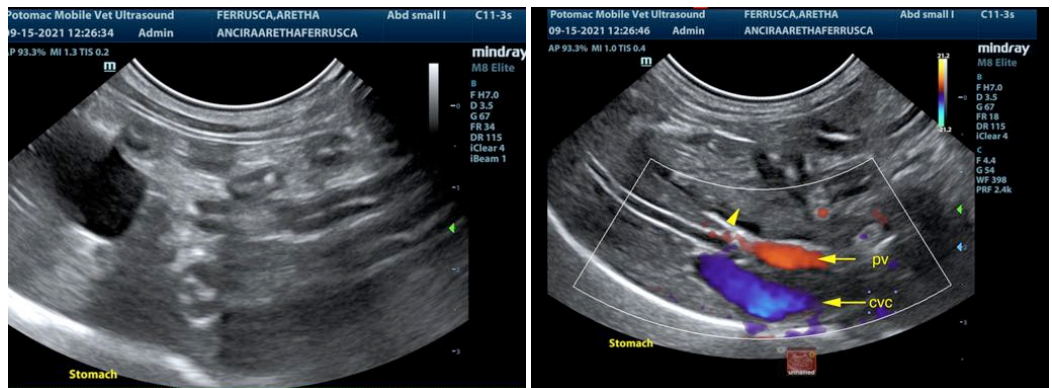
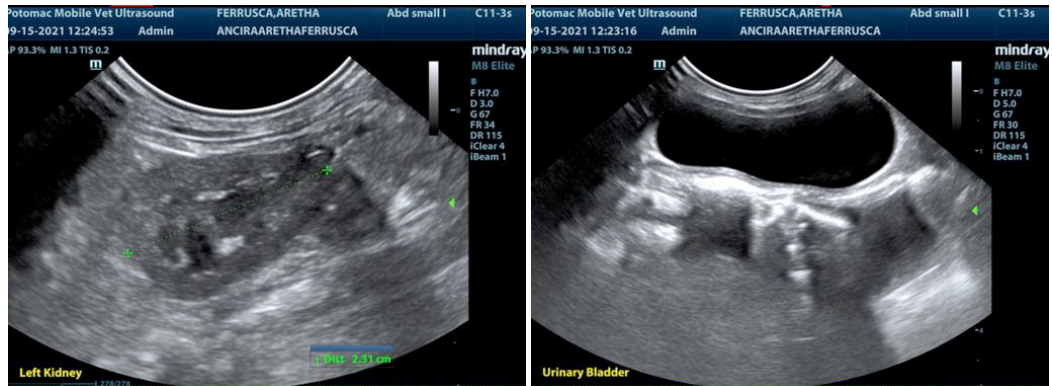
Dr. Jarrett

INVOICE

91862

DATE

9/15/21



The information and recommendations provided are based on the images presented by the referring veterinarian. 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