

PATIENT PRESENTING CLINICAL SIGNS

Bella Ferreira Rule out portosystemic vascular anomaly (PSVA/PSS); patient showing signs of HE. Current meds: metronidazole/Amoxi/Lactulose.
SPECIES Abnormal PE/Chem/CBC/UA Results: Monocytosis/elevated ALT/AST/ALP; low TP/albumin/BUN/cholesterol, Bile Acids 271 (random).

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

BREED *Urinary System*

Maltese The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. The bladder revealed a 0.79 cm calculus that was non-obstructive. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

SEX

Intact Female

AGE

2 years

The **kidneys** were bilaterally swollen with hypervascular cortical changes. The right kidney measured 4.03 cm. The left kidney measured 4.13 cm.

Adrenal Glands

WEIGHT

6 lbs

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 right adrenal gland measured 1.37 x 0.55 cm at the caudal pole and 0.97 cm at the cranial pole. The left adrenal gland measured 1.12 x 0.38 cm at the caudal pole and 0.5 cm at the cranial pole.

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

Spleen

IMAGING PERFORMED BY

Kelly Vazquez, CVT

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.

HOSPITAL NAME

Ridge Road AH

Liver

REFERRING VET

Dr. Pathak

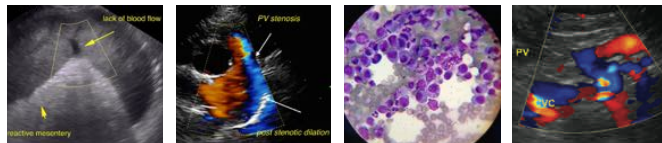
Microhepatica with hypovascular parenchyma was noted. An extrahepatic portosystemic shunt was noted and measured 1.17 cm in width. The shunt derives from the portal vein and decourses ventrally caudal to the pyloric outflow and then turns dorsally and enters into the vena cava. This pattern would suggest gastrocaval shunt. This is a particularly large shunt at 1.1 cm at maximum width. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident.

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PATIENT

Gastrointestinal

Bella Ferreira

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

Maltese

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

AGE

2 years

Extrahepatic portosystemic shunt consistent with gastrocaval shunt.

Significant microhepatica.

WEIGHT

6 lbs

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Surgical consultation is recommended. The surgeon and managing internist should be concerned for potential secondary portal hypertension post surgical attenuation in this patient given the significant microhepatica and large diameter of the shunt. The shunt fraction will be high in this case. Cystotomy, sand analysis and bladder lavage is indicated. Clinical management with the clinical protocol should prove effective prior to surgical intervention.

INTERPRETED BY

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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.

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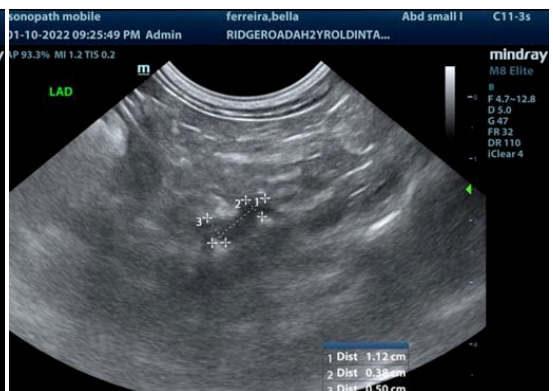
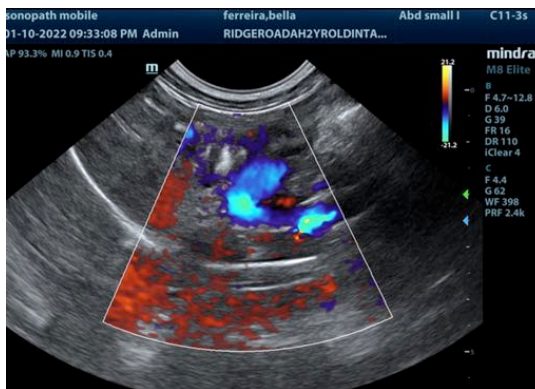
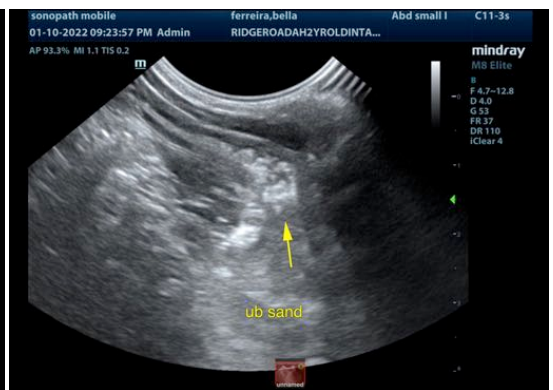
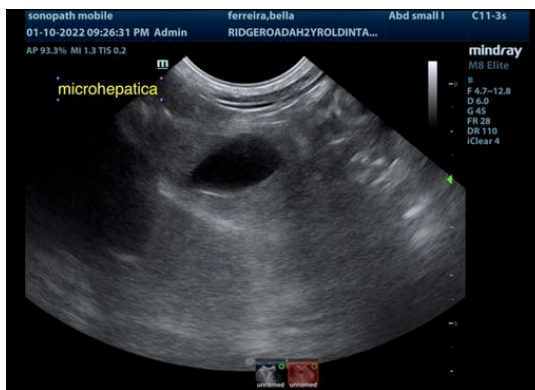
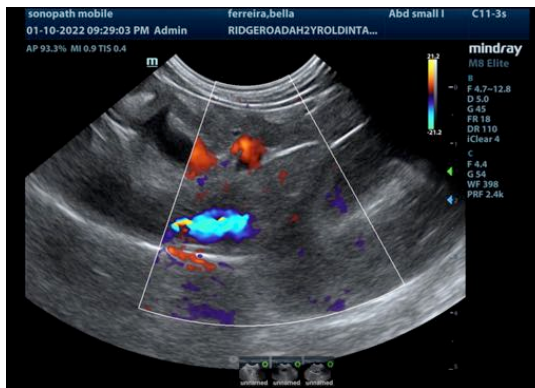
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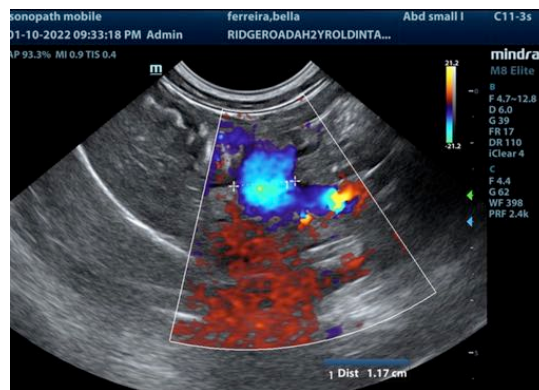
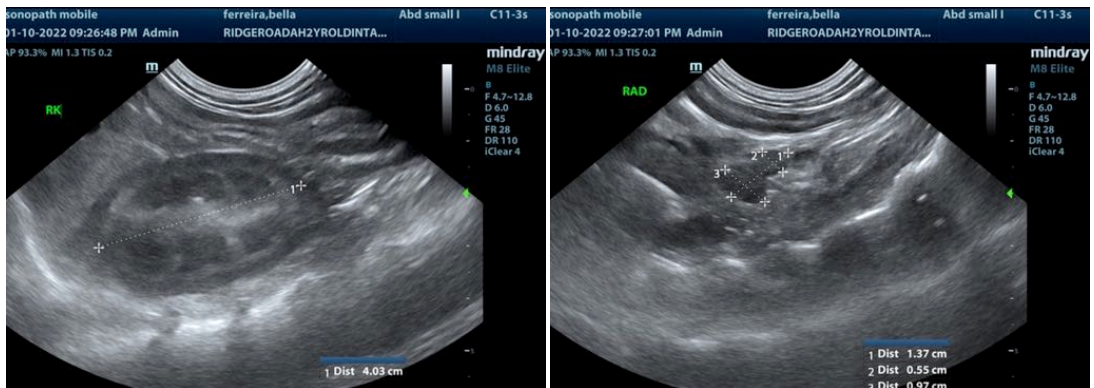
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
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