



PATIENT PRESENTING CLINICAL SIGNS

SKYE MARIN History: Current meds Lactulose, Cerenia and Metronidazole. Suspect PSS. Rads revealed microhepatic.
SPECIES Abnormal PE/Chem/CBC/UA Results: ALT increased 387(0-120)increased ALP 281(0-140)mildly decreased creatinine. U/S was recommended by Dr. Nele from Sonopath from rad report,

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

BREED Urinary System

Miniature Pinscher 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.

SEX

Intact female

AGE

5 months

The **kidneys** were swollen in this patient. The corticomedullary definition and ratio were normal 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. Minor mineralization was noted in the kidneys. The right kidney measured 3.52 cm. The left kidney measured 3.9 cm.

WEIGHT

4.8 lbs

Adrenal Glands

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

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 1.12 x 0.46 cm at the cranial pole and 0.3 cm at the caudal pole. The right adrenal gland measured 1.51 x 0.54 cm at the caudal pole and 0.77 cm at the cranial pole.

IMAGING PERFORMED BY

Crystal Hill

Spleen

HOSPITAL NAME

St. Catharines AH

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.

REFERRING VET

Dr. Boctor

Liver

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The **liver** revealed significant microhepatica with subnormal vascularity. The portal hilus was clearly imaged in this patient. The portal vein, hepatic artery and vena cava were all identified. The portal vein to vena cava ratio was significantly abnormal with the portal vein measuring 0.3 cm, vena cava measuring 0.87 cm. An extrahepatic portosystemic shunt in the position of the splenocaval shunt was noted and measured 0.75 cm in 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.

DATE

10/18/21



PATIENT

Gastrointestinal

Skye Marin

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

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BREED

Miniature Pinscher

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

Extrahepatic portosystemic shunt with significant microhepatica.

AGE

5 months

Renal mineralization.

Swollen kidneys.

WEIGHT

4.8 lbs

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Surgical referral is recommended for eventual ameroid constrictor placement upon the splenocaval shunt. The splenocaval shunt measured approximately 3.0 cm in length x 0.75 cm in width and was deriving from the splenic vein junction to the portal vein. Concurrent microvascular dysplasia/portal hypoplasia may be an issue in this patient. Liver biopsy is warranted. The surgeon should consider moderate risk for secondary portal hypertension developing post attenuation of the shunt as significant microhepatica is present. Supportive care prior to surgery is recommended with the following protocol.

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Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy

IMAGING PERFORMED BY

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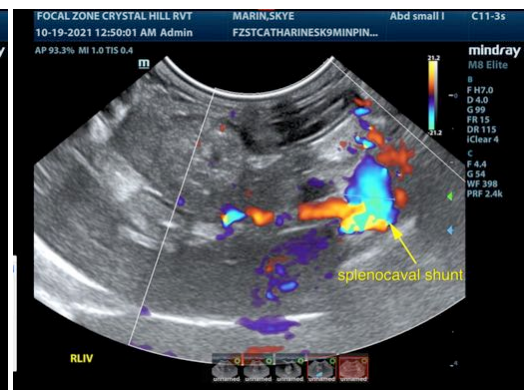
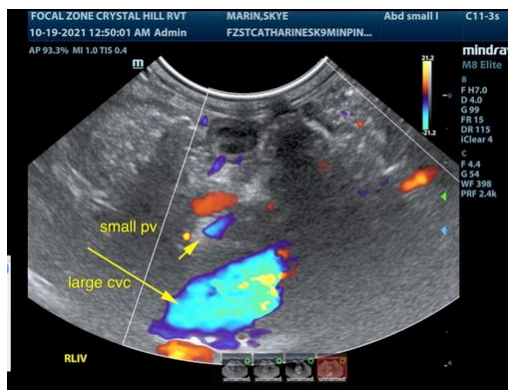
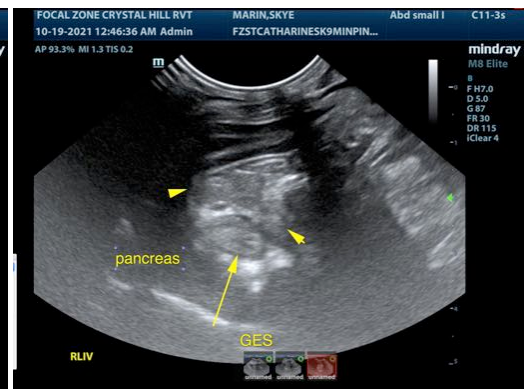
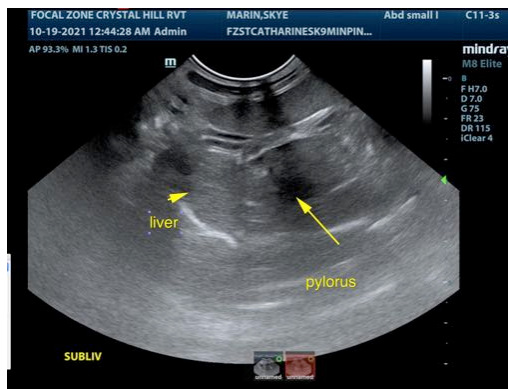
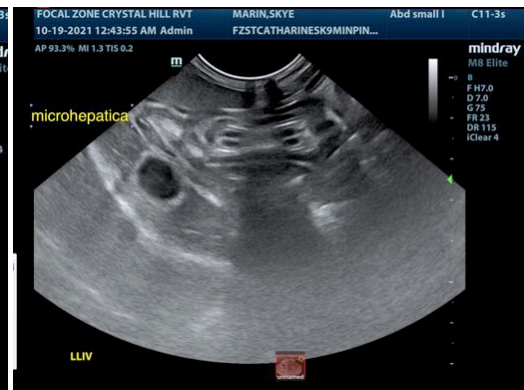
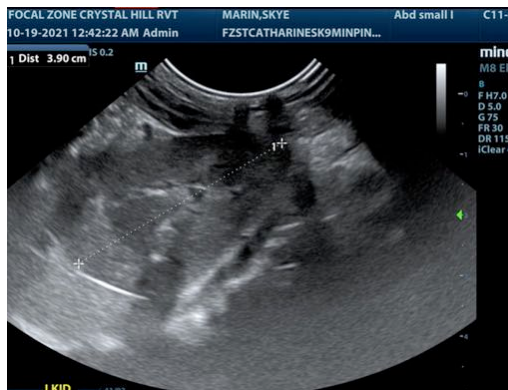
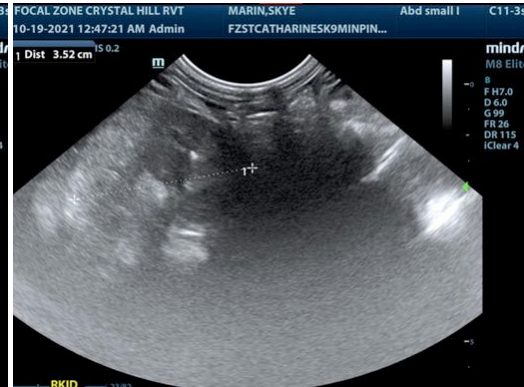
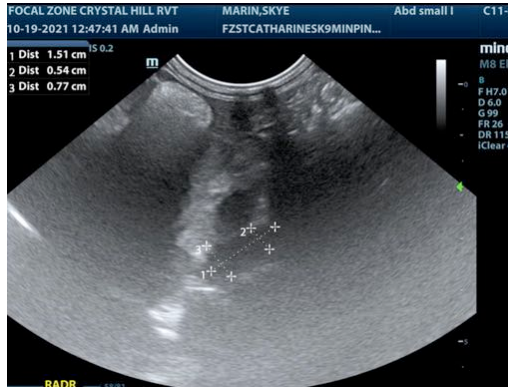
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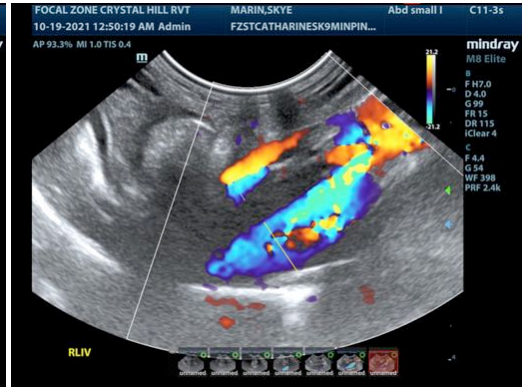
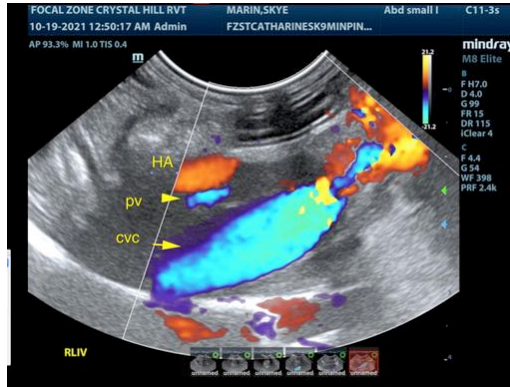
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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