



PATIENT PRESENTING CLINICAL SIGNS

Coco Scott
Coco presented on August 23, 2021 for vomiting approximately every other day since her adoption from Mexico in May. Her owner was also concerned about continued urination in the house. This was her first visit to this clinic. Coco's medical record from Mexico shows vaccination for DHPP, bordetella, and rabies in March, 2021. She is reportedly spayed as well. She was not vaccinated with any leptovaccines. The PE was normal. A CBC, Chem, and UA showed elevations in liver enzymes, proteinemia, and isosthenuria. A bile acids test on August 26th confirmed liver dysfunction. Repeat CBC, Chem, and UA were submitted on the day of this ultrasound exam (September 10th). Additionally, a 4DX snap test was abnormal. Lepto Panel serovar 6S test is pending. Coco had liquid diarrhea at the time of this scan. Coco was started on doxycycline pending all results.

Abnormal PE/Chem/CBC/UA Results: 8/23: CBC=wnl Chem: urea=2.2 (2.7-9.8) TP=53 (56-73) Alb=29.3 (30-40) TBili=10 (0-7) ALP=475(21-122) ALT=644 (0-113) GGT=39 (1-18) Na=151 (141-150) Chloride=120 (107-115) UA: usg=1.019 Neg bilirubin Trace protein August 26: Bile acids: Pre=110.9 (0-15) Post>250 (0-22) September 10: CBC: RBC=5.14 (6-8.9) HGB=125 (145-204) HCT=37 (42-62) Chem: BUN=2.4 TP=50 Alb=26 TBili=28 Direct Bili=22 (0-3) ALP=553 ALT=494 GGT=42 UA: usg=1.016 protein=0.3 g/L +2 bili +3 blood Bilirubin crystalluria SNAP 4DX: A. phagocytophilum/A. platys POSITIVE E.canis/E.ewingii POSITIVE Lepto panel pending

AGE ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

2 Years **Urinary System**

WEIGHT
15.7 kg
The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. A minor amount of dependent and suspended debris was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

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 left kidney measured 6.13 cm. The right kidney measured 6.04 cm.

IMAGING PERFORMED BY

Donna Markland, DVM

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 1.03 cm x 0.53 cm at the caudal pole and 0.38 cm at the cranial pole.

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Spleen

The **spleen** was mildly enlarged with slight heterogeneous parenchymal changes. The splenic vein was unremarkable. No evidence of thrombosis.

REFERRING VET

Chemainus AH

Liver

The **liver** itself appeared largely unremarkable. Only minor lobar biliary dilation present. However, the liver is somewhat subnormal in size. No obvious portosystemic shunts present. The portal vein was followed to its branching. Portal vein/CVC ratio was 1:1, both of which measured 1.0 cm. The gallbladder was mildly overdistended with suspended debris and dilated cystic duct with echogenic debris. The common bile duct was also congested with echogenic debris. The common bile duct was followed to the duodenal papilla, which appeared to be intact without evident pathology. Minor gallbladder sand also present. The common bile duct measured 1.0 cm in width.

INVOICE

25349

DATE

9/12/21



PATIENT

Coco Scott

SPECIES

Canine

BREED

Mixed

SEX

Spayed Female

AGE

2 Years

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15.7 kg

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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.

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.

Free Abdomen

Trace free fluid noted in the abdomen. Slight reactive mesenteric lymph nodes present.

ULTRASONOGRAPHIC FINDINGS

- Microhepatica with biliary sand and congestion
- Emerging gallbladder mucocele and mucoduct, which is odd for this age patient.
- Bladder debris
- Minor free fluid

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Sand obstruction in the distal common bile duct is suspected, even though not overtly visualized. An obstruction either from sand and/or mucoduct in the distal common bile duct prior to the duodenal papilla likely, given that the duodenal papilla is unremarkable. I recommend medical management for Leptospirosis over the next 48 hours. If Leptospirosis is the primary issue, this patient should be resolving. However, surgical intervention to liberate the common bile duct and gallbladder congestion would be appropriate if the biliary tree remains similar to current sonogram. Portal hypoplasia or non-visible portosystemic shunt cannot be completely ruled out as complicating factors in this patient. Ideally, CT with contrast would be performed for further definition after immediate medical treatment. IV Ampicillin, Metronidazole, plasma expanders, nutraceuticals all indicated with liver-oriented diet with reassessment of the sonogram in 48-72 hours and/or CT with contrast. Urinary workup warranted if not already performed.

For an additional charge, internal medicine consult can be utilized through SonoPath.com. You can select the internal medicine drop down at <http://spa.sonopath.com/>.

One of the world's top internists & SonoPath associate Dr. Remo Lobetti BVSc, MMedVet, PhD, DECVIM can evaluate your case through SonoPath. <https://sonopath.com/resources/sonopath-services/internal-medicine-teleconsultation-services>



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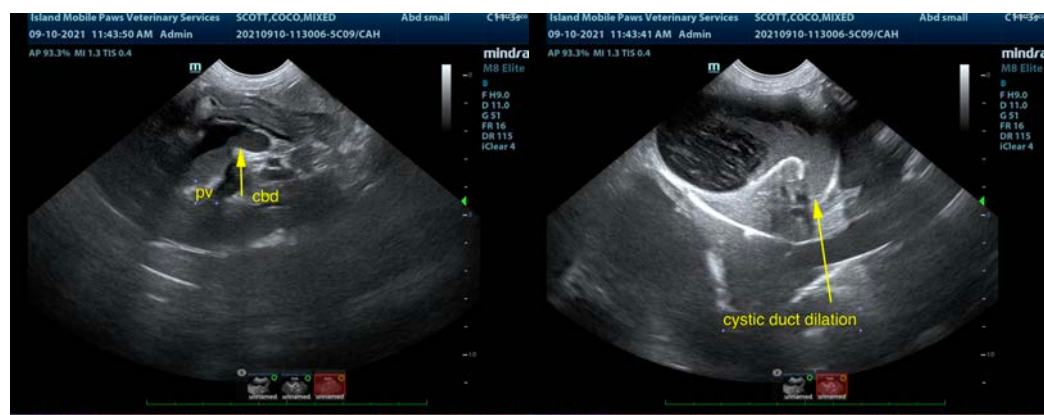
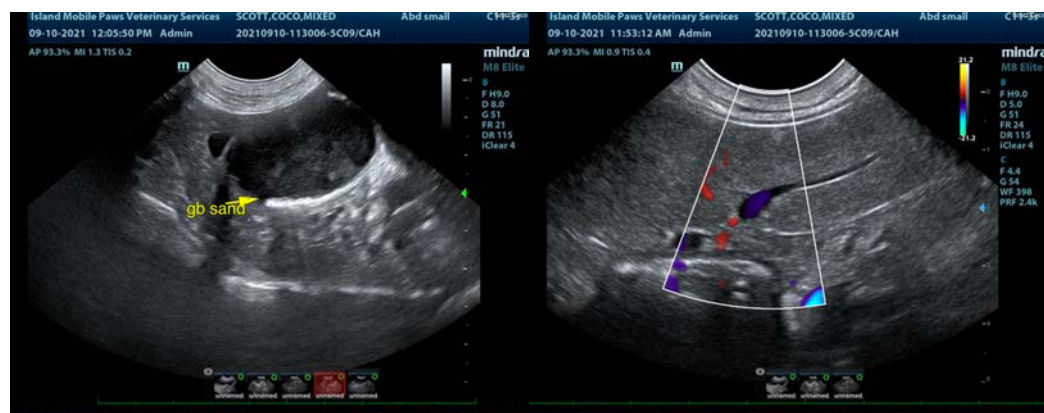
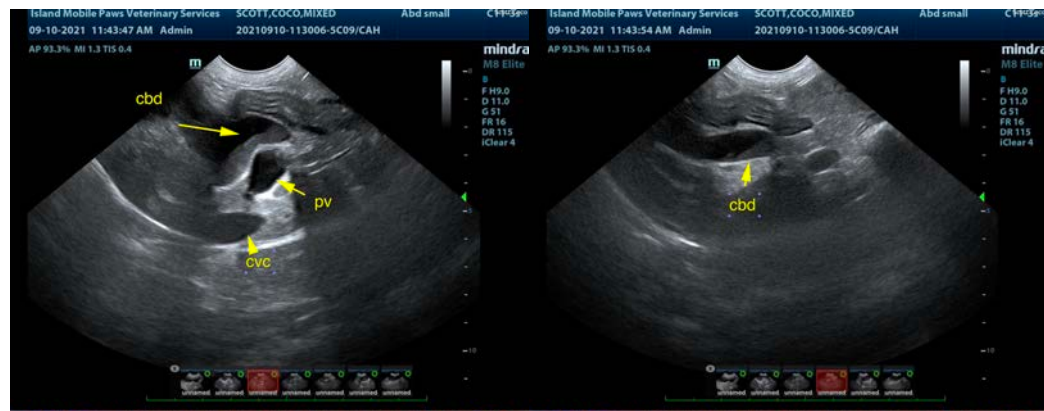
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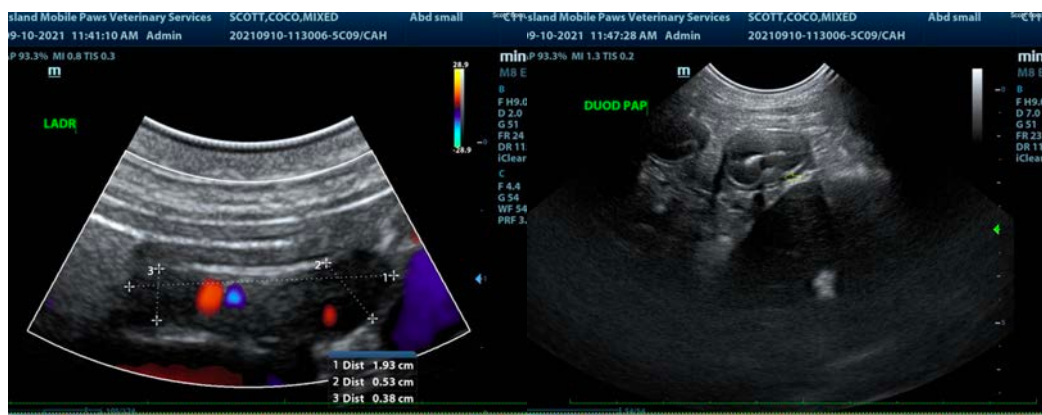
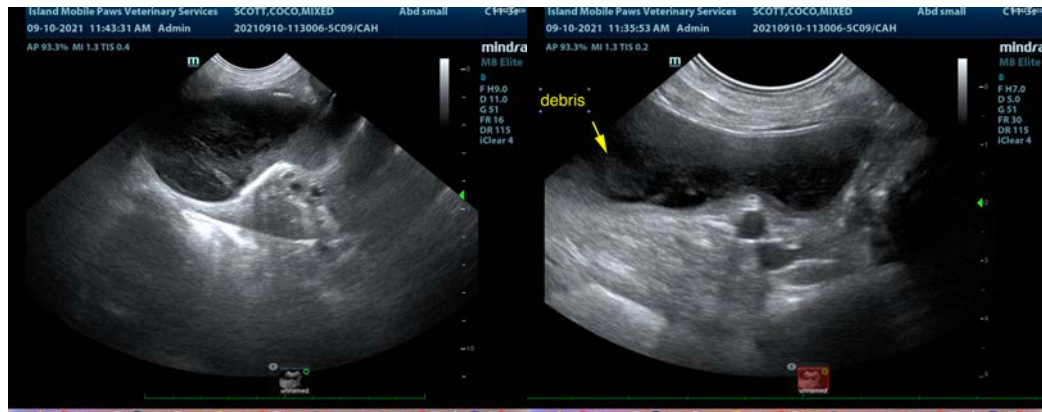
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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