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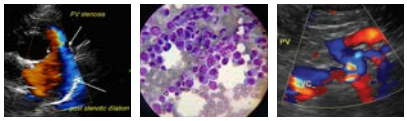

SonoPath

Clinical Sonography & Telecytology

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DATE

6/15/22

PATIENT

Macho Chavez

SPECIES

Canine

BREED

Mix

SEX

Neutered Male

AGE

2/2/14

WEIGHT

76.3 Pounds

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY

Andi Parkinson RDMS

HOSPITAL NAME

Eastern AH

REFERRING VET

Dr. Wu

INVOICE

38740

PRESENTING CLINICAL SIGNS

One week history of inappetence and vomiting. Patient lethargic and icteric on presentation. Discomfort on abdominal palpation.
Lab Results: Leptospirosis-SNAP negative. Alt 512, Alp 663, GGT 17, Tbil 12.5, SDMS 33.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is mildly distended with anechoic urine. The Bladder wall appears subjectively thickened, but this is difficult to determine due to lack of urine distention. The area of the trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, or masses. In the dependent portion of the urinary bladder, there is a small string of hyperechoic shadowing mineralizations, most consistent with small calculi.

The visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (7.86 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (7.01 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.65 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.46 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is an isoechoic solid mass effect visualized near the gallbladder, measuring 6.07 cm x 5.57 cm.

The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris, but there is some

mucosal stranding and edema associated with the wall, consistent with early mucocele formation. There is no evidence of bile duct dilation. These changes can be consistent with an early gall bladder mucocele.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Large, heterogeneous liver with isoechoic mass effect – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. There is a focal, solid isoechoic mass effect, which is most consistent with a primary hepatic mass, but other differentials are possible.

- Early gallbladder mucocele – There is minimal surrounding inflammation, but with the elevated bilirubin reported, surgical evaluation of this gallbladder would need to be considered.

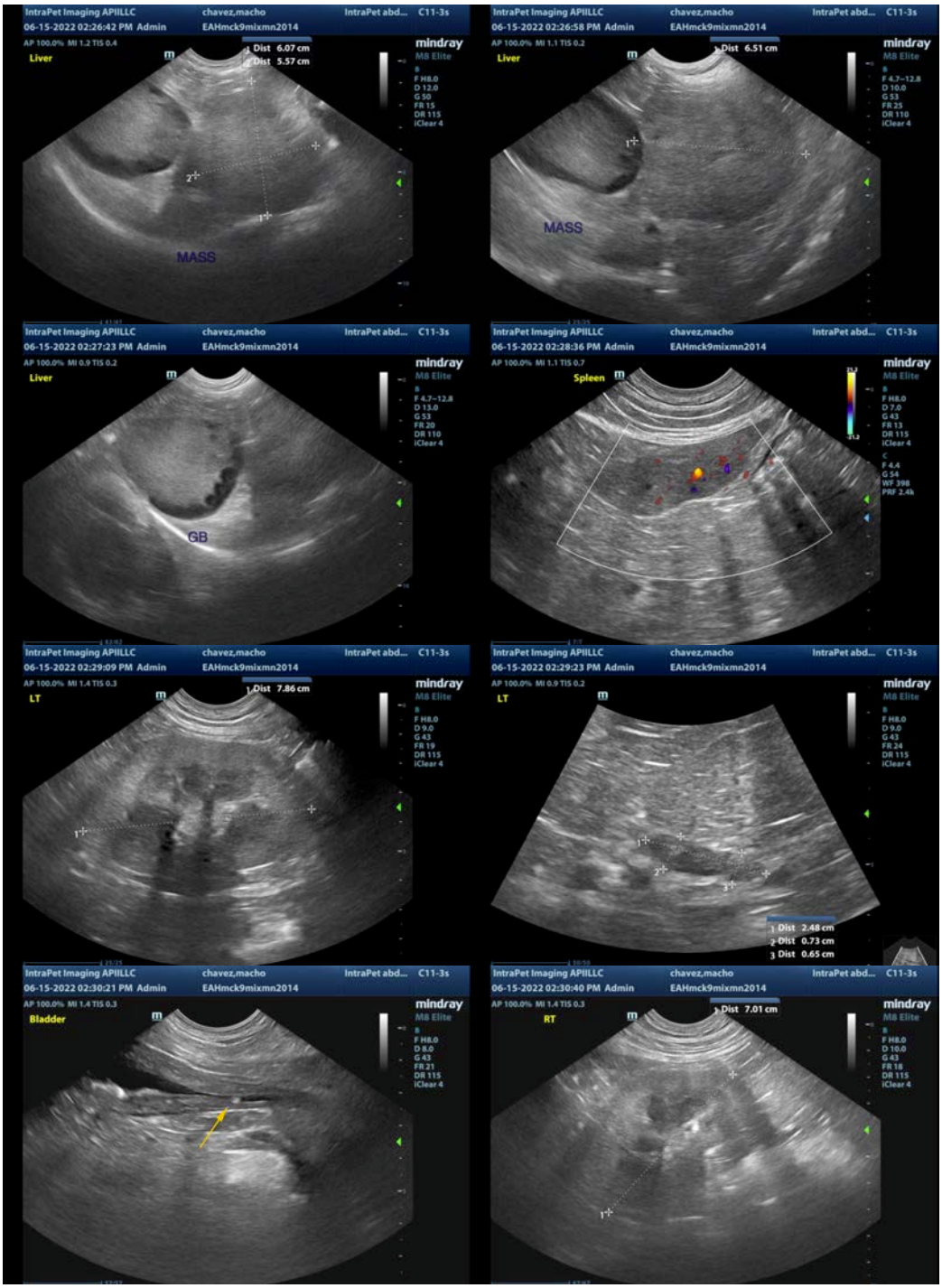
- Small calculi visualized within the urinary bladder – Recommend urinalysis and culture and radiographs to further evaluate the size and number of small calculi present.

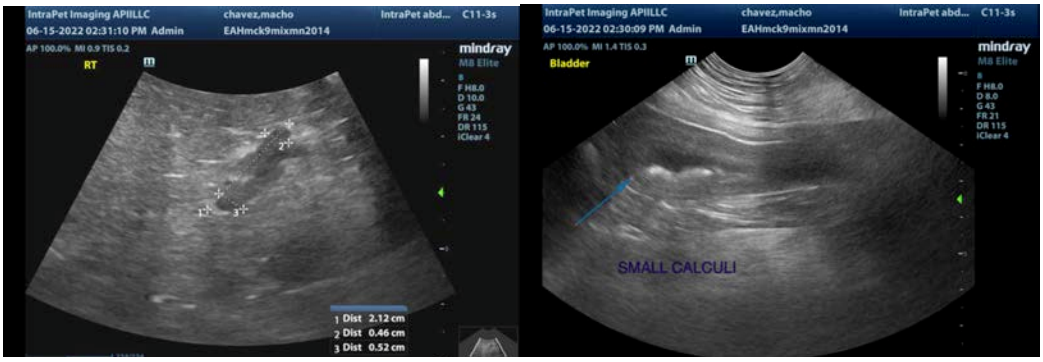
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The gallbladder is large and has some changes consistent with early mucocele formation. Additionally, there is a mass effect within the liver. It would be somewhat unusual for a mass like this to cause an elevation in bilirubin, so I suspect the gallbladder changes would be most likely to cause clinical illness and a bilirubin elevation. A caveat to this would be if there is infiltrative disease to the liver such as round cell neoplasia, etc.

Options moving forward include a conservative approach with a fine needle aspirate of the liver and medical management with antibiotics and Ursodiol. I'm concerned that this is unlikely to be successful and could delay a more definitive diagnosis. An alternative (likely preferable) approach would be referral to a veterinary surgeon for surgical evaluation of the gallbladder and removal of the liver mass. Advanced imaging could be considered prior to this procedure for surgical planning.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.





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.

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