



PATIENT

Bella Mohlenhoff

PRESENTING CLINICAL SIGNS

History: Persistent anorexia, vomited once. Current meds: Cerenia
Abnormal PE/Chem/CBC/UA Results: ALT 2620 BUN 42.5, GGT 47, K 3.7, CI 101, HCT 63.4, HGB 20.8, RBC 8.62

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

BREED

Maltese mix

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

SEX

Spayed Female

The right kidney has a normal shape and size (2.97 cm). Overall echogenicity is slightly hyperechoic with poor 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.

AGE

9 years

The right kidney has a normal shape and size (2.55 cm). Overall echogenicity is slightly hyperechoic with poor 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.

WEIGHT

4.8 lbs

INTERPRETED BY

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

Adrenal Glands

The left adrenal gland is normal in size measuring 0.49 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 0.35 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.

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Shari Reffi CVT

Spleen

HOSPITAL NAME

Newton VH

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.

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Dr. Pierson

Liver

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The liver is subjectively normal in size, and 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. No focal nodules or cystic lesions are observed. The gallbladder lumen is moderately distended with hyperechoic debris. The wall of the gallbladder appears somewhat thickened at 0.21 cm and the wall is hyperechoic. There is no surrounding inflammation or fluid. The common bile ducts are not visible.

DATE

9/2/21



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Gastrointestinal

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The stomach is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

SPECIES

Canine

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 and the jejunum measured as normal (0.29 cm, 0.3 cm). Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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SEX

Spayed Female

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.

AGE

9 years

Pancreas

The region of 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.

WEIGHT

4.8 lbs

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.

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ULTRASONOGRAPHIC FINDINGS

PRIMARY FINDINGS:

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- Gallbladder distended with hyperechoic debris and a thickened wall. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.
- Decreased corticomedullary distinction in both kidneys. Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.
- Mildly heterogenous liver.
- Mild/moderate gastric distension with fluid and shadowing material. Correlate findings with feeding history. If not recently fed, differentials include gastric foreign material or delayed gastric emptying. Correlate findings with abdominal radiographs.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A focal lesion associated with the liver was not identified. The changes observed were non-specific. The gallbladder appears distended with debris and has a thickened wall. The reported blood work is a primary ALT elevation, which would be an atypical presentation for gallbladder disease (typically presents with signs of cholestasis). In this situation I would recommend:

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc...
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history
- If not already done, consider pre and post prandial bile acids to evaluate liver function
- If the ALP is significantly elevated relative to the ALT and symptoms consistent with Cushing's are present, consider adrenal function testing (ACTH stim)
- Consider Fine needle aspirate if round cell neoplasia is on your differential list (25 g needle, normal coags)
- If no response to supportive care (Denamarin, fluids, antibiotics,+/- Ursodiol etc...) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

Consider starting Ursodiol with close monitoring of the gallbladder with ultrasound to make sure that changes do not worsen. The stomach is mildly dilated with fluid and shadowing material. Some of it appears somewhat irregular. Correlate with feeding history and radiographs to make sure a gastric foreign body is not missed. The stomach does not appear obstructed.

The changes observed in the kidneys are most consistent with chronic progressive disease/age related change. I recommend urinalysis and culture, blood pressure measurements and testing for Leptospirosis. It is unclear if the azotemia reported is prerenal or renal.

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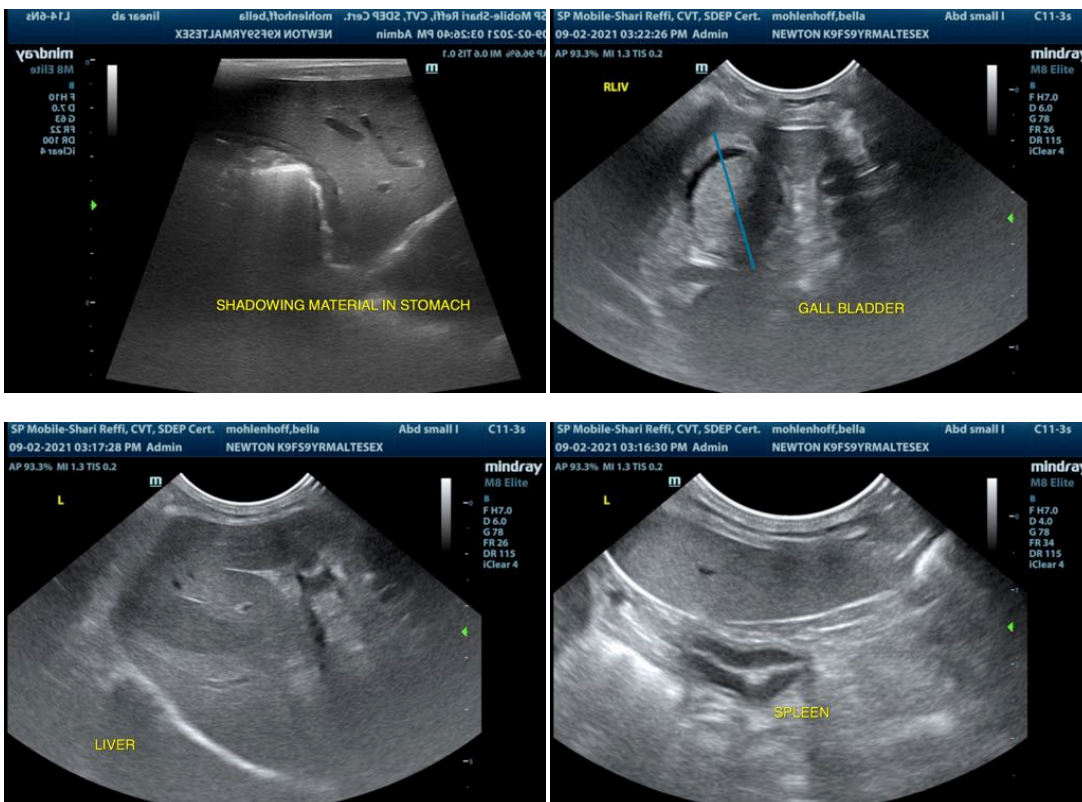
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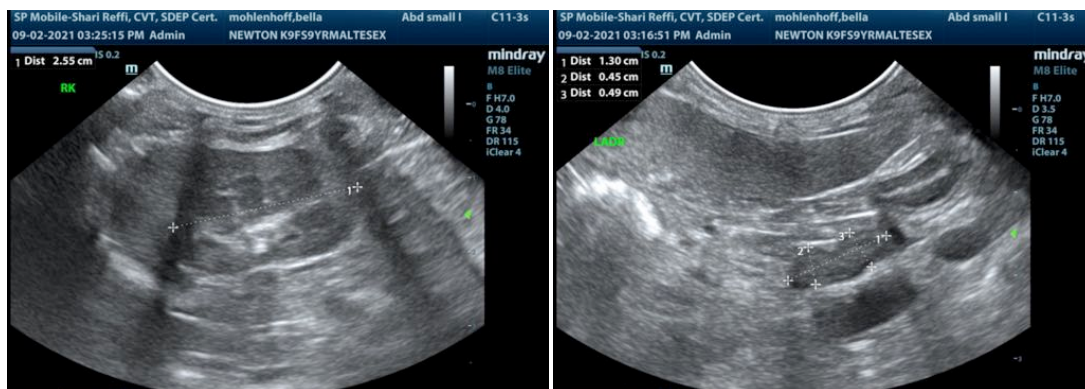
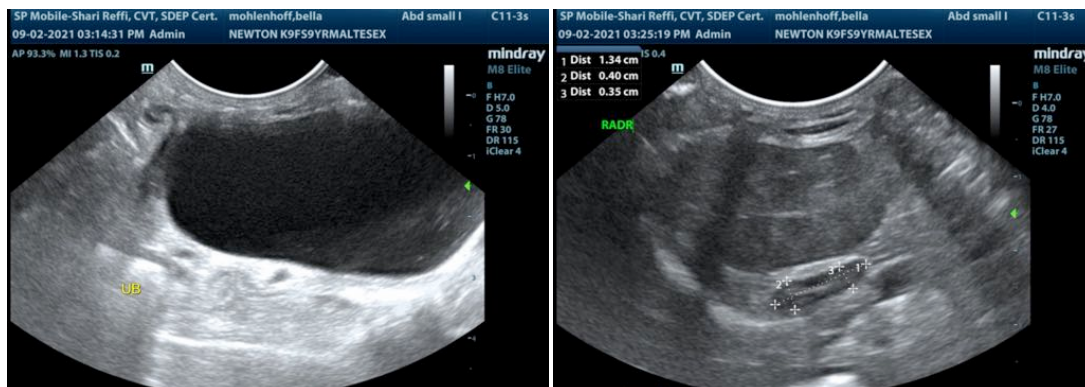
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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