IMAGING PERFORMED BY

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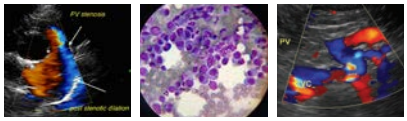

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DATE

12/3/21

PATIENT

Emma Muskauski

SPECIES

Canine

BREED

Miniature Pinscher

SEX

Spayed Female

AGE

2/7/13

WEIGHT

11.5 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Northwind AH

REFERRING VET

Dr. Cross

INVOICE

33236

PRESENTING CLINICAL SIGNS

History: Patient has a history of elevated liver enzymes. Patient has always had a cough, but over past week cough has gotten worse. Cardiomegaly noted on radiograph.

Lab Results: Attached separately.
Current Medications: Denamarin 90mg - 1 po BID.
Radiographs: enlarged heart, spondylosis lumbar spine. Attached separately.
Date of Previous IntraPet Ultrasound: No previous IntraPet scans.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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.

The left kidney has a normal shape and size (3.2 cm) with non-obstructive nephroliths. 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, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (3.15 cm) with non-obstructive nephroliths. 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, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.63 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 0.48 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 subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. 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. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

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.

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. Jejunum wall measured 0.28 cm. 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.

Other

There is a large dilated anechoic tubular structure visualized in the caudal abdomen in the area of the urinary bladder. This structure would be most consistent with a dilated uterus, but with the history of being spayed, this cannot be absolutely confirmed.

PRIMARY FINDINGS

- Decreased corticomedullary distinction in both kidneys with non-obstructive nephroliths – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. The hyperechoic mineralized foci observed at the corticomedullary junction of the left/right kidney are consistent with small, non-obstructive nephroliths.

- Dilated, hypoechoic tubular structures in caudal abdomen, suspect uterus – With the history of being spayed, this is questionable. Other less likely differentials would include dilated bowel, etc.

SECONDARY FINDINGS

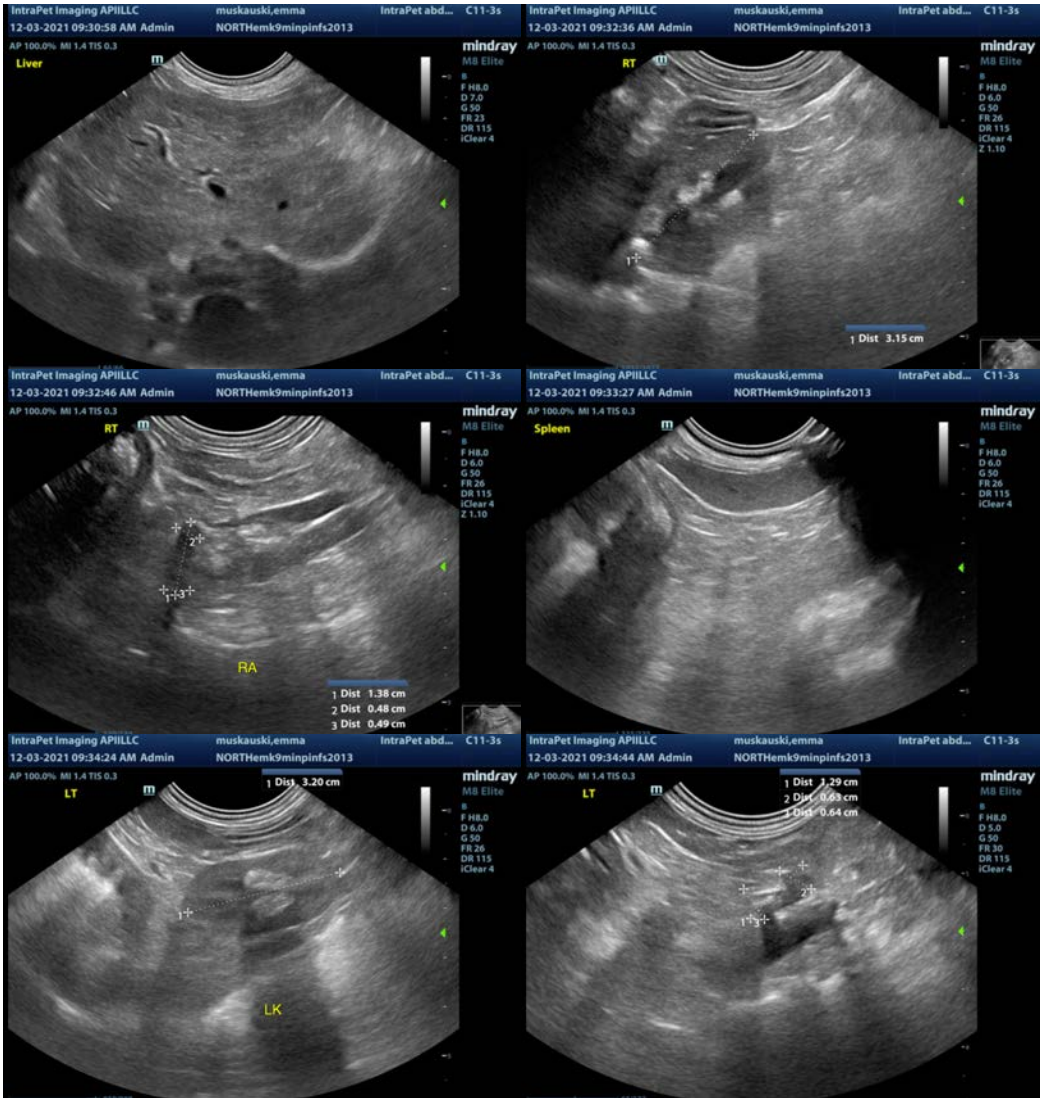
- Moderate shadowing material within the gastric lumen – correlate with feeding history. If the patient was adequately fasted, then consider such differentials as delayed gastric emptying or a partial gastric obstruction (none visualized).

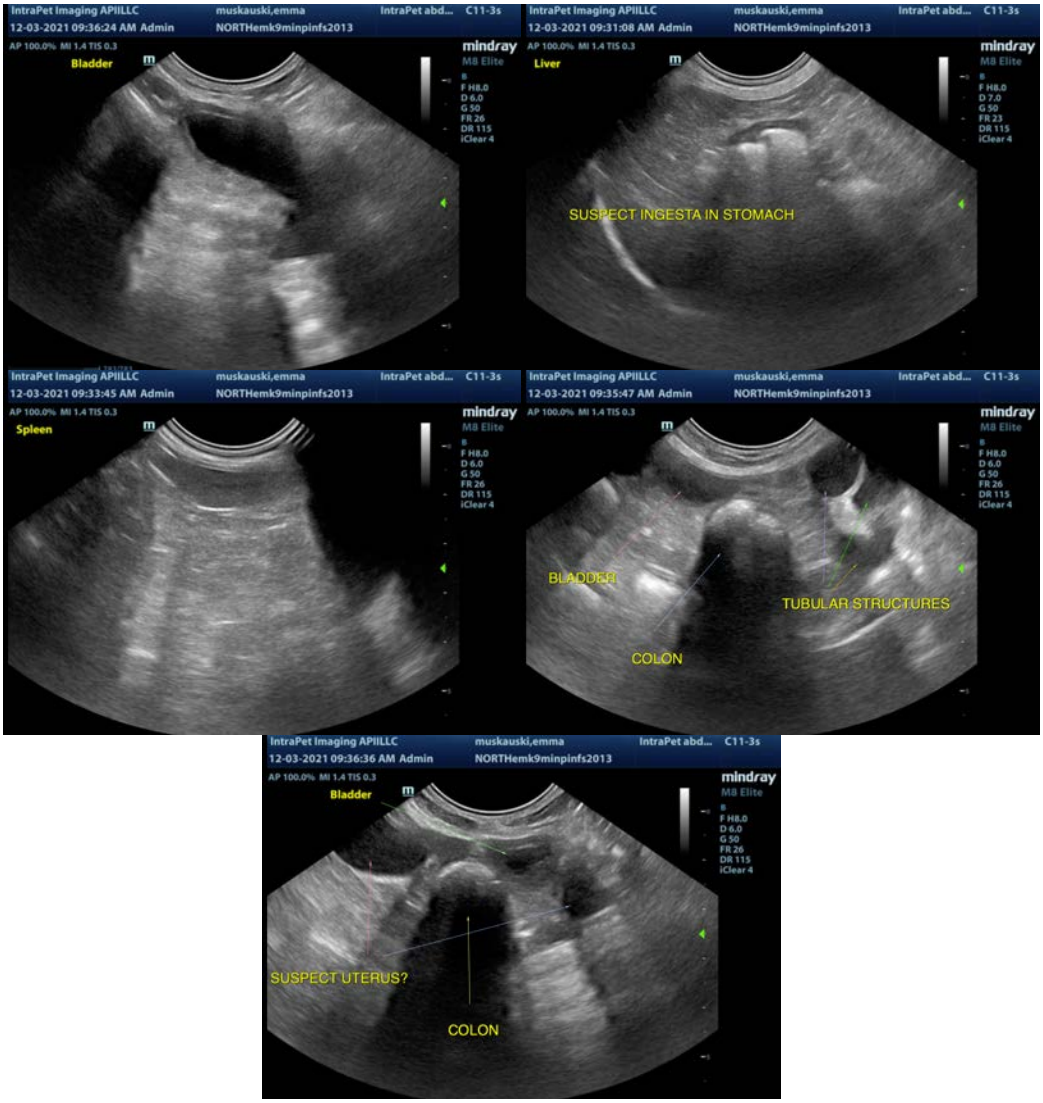
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The history provided mentions a historical liver enzyme elevation. In the current blood work provided, these values appear normal. Additionally, the liver and gallbladder appear normal on ultrasound. There can rarely be significant liver disease with normal lab work in cases of progressive chronic hepatopathy. If this is suspected, recommend pre and post-prandial bile acids to evaluate liver function.

Additionally, there is a large tubular structure visualized in the caudal abdomen adjacent to the urinary bladder. This would typically be consistent with a dilated uterus (mucometra most likely, possibly pyometra), but with the history of being spayed, this is questionable. Additionally, I am not able to clearly see the body of the uterus. Options moving forward include:

- Questioning of the owner and historical information regarding when the pet was spayed, looking for a spay scar and trying to determine if there were ever signs of heat.
- Additionally, looking for secondary sexual characteristics such as a developed vulva, mammary glands, etc.
- Consider hormonal testing to determine if the patient is intact.
- Consider exploratory surgery to better evaluate this area.
- Consider advanced imaging to confirm that the tubular structure is uterus prior to considering surgery.





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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