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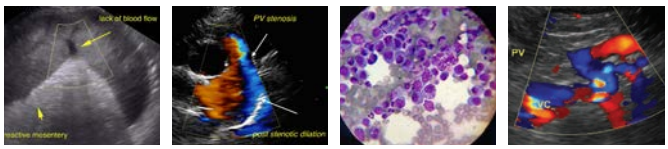
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT
Bella Prater

SPECIES
Canine

BREED
Rat Terrier

SEX
Female

AGE
8 Years

WEIGHT
15.6

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

IMAGING PERFORMED BY
Ashley Whitesell

HOSPITAL NAME
Dickson Animal Clinic

REFERRING VET
Dr. Rick Hovis

INVOICE
46926

DATE
4/25/23

PRESENTING CLINICAL SIGNS

Not spayed; has been coughing/collapsing trachea past week, all else WNL; on x-ray for chest included abdomen views as well, had large mass like effect in abdomen

Abnormal PE/Chem/CBC/UA Results: WBC 28.1; neutrophilia, lymphopenia; glucose 145; alp 269

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall is diffusely mildly thickened, and the mucosa is mildly irregular. The apex measures at 0.45 cm. There is a small hyperechoic mineralization visualized measuring 0.36 cm, consistent with a small stone. The trigone, ureteral papillae, and visible urethra (to a depth of 2cm) appear normal with no evidence of severe mucosal irregularities, or masses. Findings are most consistent with bacterial cystitis or lack of urine distension. Recommend urinalysis and culture.

The left kidney has a normal shape and size (3.97 cm) with a 0.43 cm shadowing, non-obstructive nephrolith. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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 (4.73 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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 0.50 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.

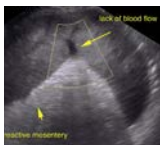
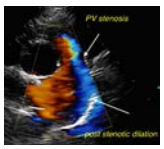
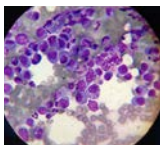
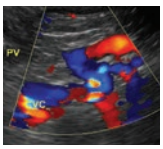
The right adrenal gland is normal in size measuring 0.53 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size but irregular in shape. The blood flow through the hilus and splenic parenchyma appears normal. There is a large, multilobulated, mildly cystic, mixed echogenic mass effect visualized in the mid abdomen measuring >7.2 cm x 4.94 cm. This appears associated with the spleen, but a direct vascular connection cannot be identified to confirm.

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. In the caudoventral aspect of the liver, ventral to the stomach, there is an isoechoic mass effect measuring 3.35 cm x 1.99 cm. This could represent an isoechoic nodule off the caudal liver lobe or abnormal nodular mesentery/fatty tissue.

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The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains moderate fluid/ingesta. 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. Duodenum wall measures 0.38 cm. Jejunum wall measures 0.25 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 area 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.

Free Abdomen

There is a small amount of echogenic free fluid. No lymphadenopathy. The omentum is diffusely mildly hyperechoic.

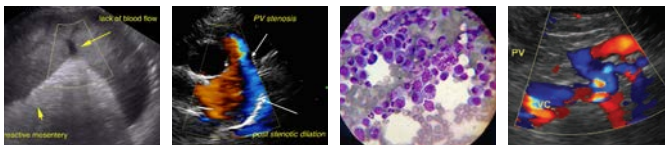
Other

The ovaries are not clearly visualized, but there is irregular, slightly cystic tissue visualized caudolateral to the left kidney. This could be an extension of the large abdominal mass or may indicate ovarian pathology.

Recommend 3-view thoracic radiographs, as there is the suspicion of pleural effusion on some brief images.

ULTRASONOGRAPHIC FINDINGS

- Large, mixed echogenic, multilobulated mid abdominal mass lesion – The primary differential for this is a splenic mass (hemangiosarcoma, hemangioma, hematoma, abscess, other). Alternately, this could be arising from the left ovary or other abdominal structure.
- Mildly thickened urinary bladder wall with hyperechoic foci – The bladder mucosal changes could be consistent with cystitis or artifactual due to lack of adequate luminal distension. Bladder neoplasia cannot be ruled out but is considered unlikely in this patient. The hyperechoic foci is most consistent with a small stone. Correlate with abdominal radiographs.
- Large, heterogeneous liver – 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.
- Echogenic free abdominal fluid – Recommend sampling for fluid analysis and cytology.



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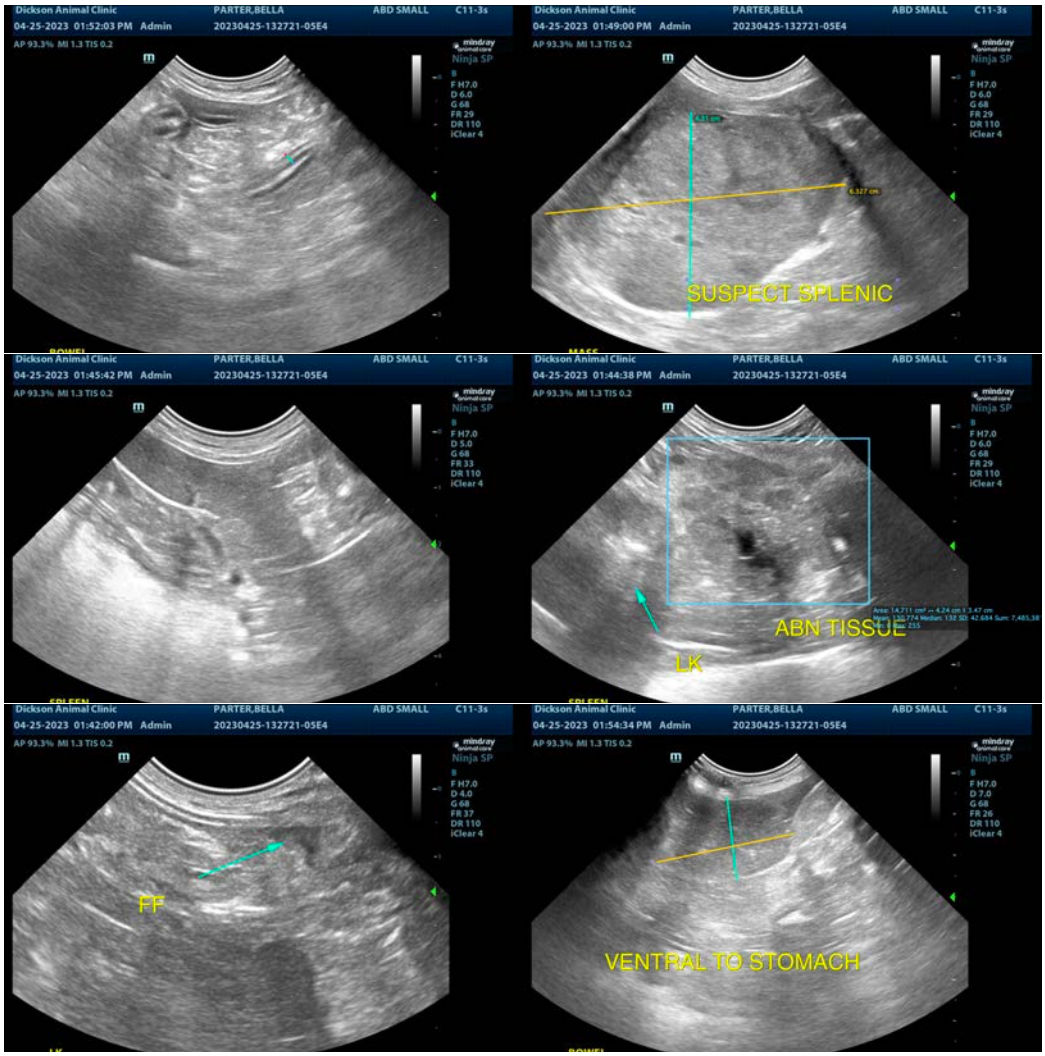
- Isoechoic mass effect in the ventral abdomen adjacent to the liver – This could represent an isoechoic hepatic nodule or even a fatty omental nodule. Recommend a fine needle aspirate.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a large, mixed echogenic mid abdominal mass lesion. This appears intimately associated with the spleen, and is most likely a splenic mass, but a vascular connection cannot be directly observed to confirm. Additionally, there is some abnormal tissue lateral to the left kidney, which could indicate ovarian pathology.

Options moving forward would include a fine needle aspirate of the large abdominal mass and the more ventral abdominal mass lesion. Additionally, you could consider contrast CT scan, or more directly exploratory via veterinary surgeon for possible splenectomy/ovariohysterectomy, etc. There are a few glimpses of possible pleural effusion visualized. Recommend 3-view thoracic radiographs and consider sampling of the pleural effusion for fluid analysis and cytology.



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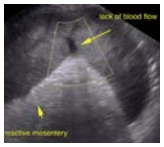
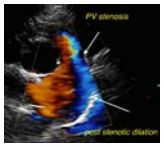
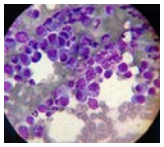
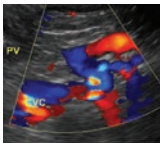

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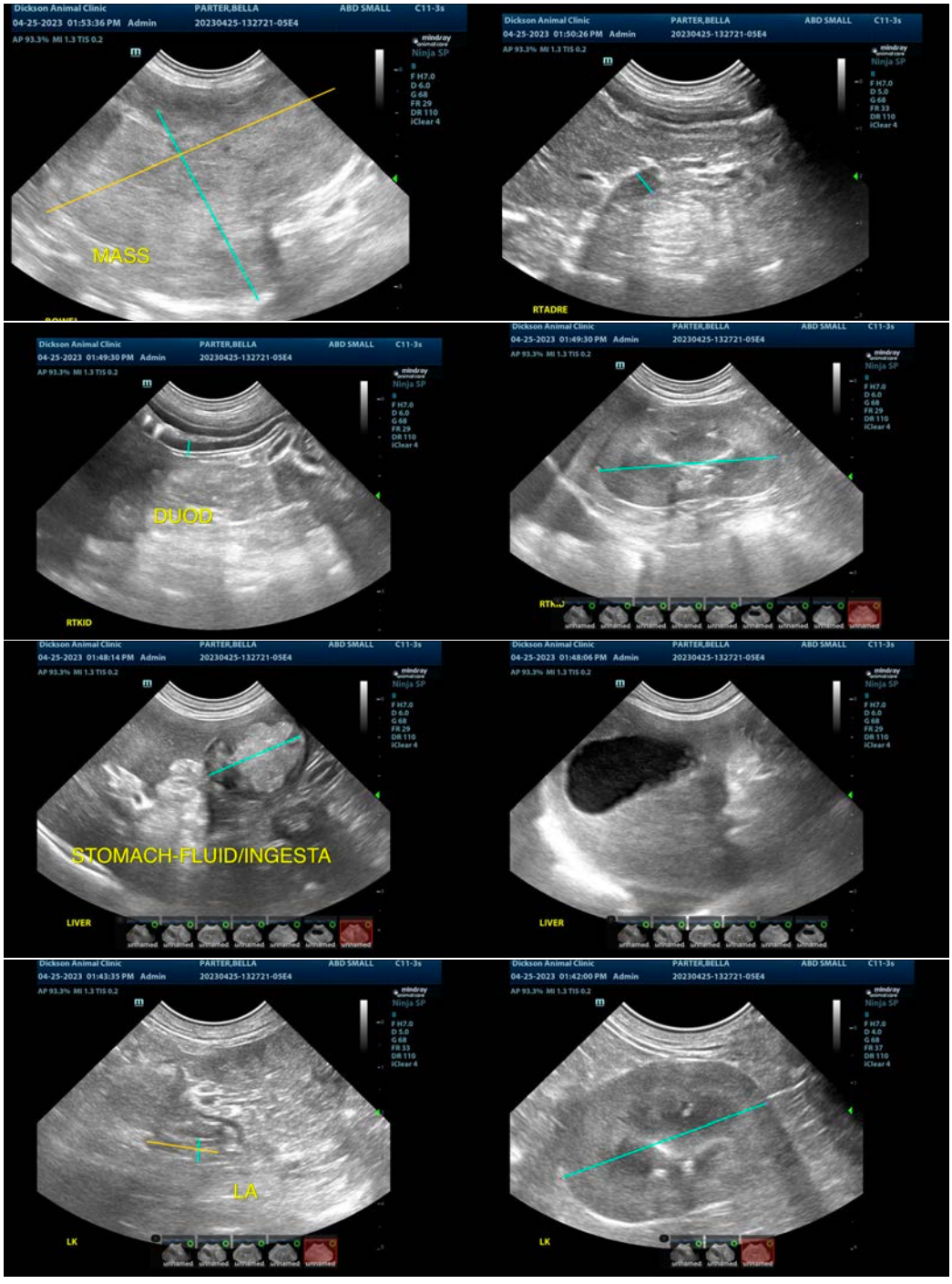

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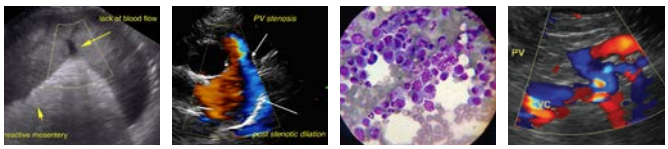

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

kathleen.sennello@sonopath.com