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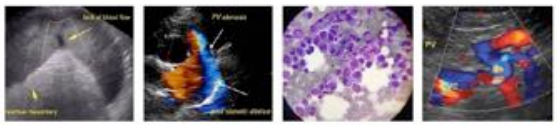


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT

Missy Smith

SPECIES

Canine

BREED

Pug

SEX

Spayed Female

AGE

13 years

WEIGHT

11 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Reshny, RVT

HOSPITAL NAME

Yates VH

REFERRING VET

Dr. Krizmanich

INVOICE

95562

DATE

1/26/22

PRESENTING CLINICAL SIGNS

Concern for possible abdominal mass seen on rads

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 (4.07 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.

The right kidney has a normal shape and size (4.27 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.

Adrenal Glands

The left adrenal gland is large in size measuring 0.54 cm at the cranial pole and 0.88 cm at the caudal pole and 1.89 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat irregular in appearance in that the caudal pole is larger than the cranial pole and there is an ill-defined, hyperechoic nodule in the caudal pole measuring 0.78 x 0.89 cm. There is no evidence of vascular invasion visualized.

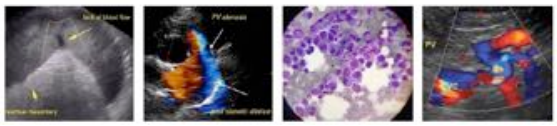
The right adrenal gland is borderline large in size measuring 0.92 cm at the cranial pole, 0.69 cm at the caudal pole and 1.9 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is somewhat irregular in appearance, but no focal nodule or mass effect is visualized.

Spleen

The spleen is subjectively large in size. The spleen echotexture is heterogenous and mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a large, globoid, solid, isoechoic mass effect that appears to be arising from the caudal portion of the spleen measuring 7.3 cm in diameter.

Liver

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. The wall of the gallbladder has irregular polypoid



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projections and there is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach is moderately dilated with fluid and focal shadowing material. This is most consistent with normal ingesta, gas and possibly foreign material/ingesta. The gastric wall measures at a normal thickness of <0.7 cm 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 are 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 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.

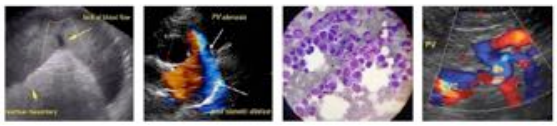
Free Abdomen

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

PRIMARY FINDINGS:

- Borderline bilateral adrenomegaly with a left-sided, ill-defined adrenal nodule. The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended.
- Large, solid splenic mass. A focal, solid, mixed echogenic mass is present within the splenic parenchyma. This mass distorts the splenic capsule. Differentials include benign lesions such as lymphoid hyperplasia, hemangioma, etc., or neoplastic lesions such as hemangiosarcoma, lymphoma, histiocytic sarcoma, etc.
- Heterogenous liver. The liver is subjectively normal in size, and echogenicity with smooth



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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.

- Moderate gallbladder polyps. The significance of the gallbladder polyps and debris is unclear. This could represent an early mucocele, cholestasis, or chronic inflammation, or could be an incidental finding.
- Moderately distended gastric lumen with focal shadowing material within the gastric lumen. Correlate with feeding history and abdominal radiographs. If this patient was adequately fasted consider such differentials as delayed gastric emptying, ingested foreign material or a partial outflow tract obstruction (none observed.)
- Decreased corticomedullary distinction in both kidneys. The bilateral renal findings are consistent with age-related change.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Both of the adrenal glands are somewhat irregular in shape and overall borderline large. There is an ill-defined, hyperechoic nodule in the caudal pole of the left adrenal gland. The significance of this is unclear. This may represent bilateral adrenomegaly and pituitary dependent hyperadrenocorticism. Alternately it could represent a normal variation or a left-sided adrenal nodule (cancerous or benign) or secreting hormones (I tend to think not due to the large size of the adrenal on the other side). Options moving forward include:

- If signs of Cushing's are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)
- If adrenal dependent Cushing's is suspected and supported by adrenal function testing consider medical therapy with Lysodren or Trilostane or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- If no symptoms of Cushing's are present, consider either referral for surgery or continued monitoring with ultrasound (in 3-4 months).
- Many of these nodules can be benign and incidental in nature, unfortunately that is difficult to determine with a single ultrasound.

There is a large, solid, midabdominal mass that I suspect is arising from the caudal portion of the spleen. I recommend splenectomy for both therapeutic and diagnostic purposes. I recommend three view thoracic radiographs.

The liver is heterogenous and there are is inflammation in the gallbladder resulting in mild polyp formation. The liver enzymes are not currently elevated so this is likely an incidental finding. I recommend continued monitoring and the use of antibiotics and Ursodiol if liver enzymes start to elevate.

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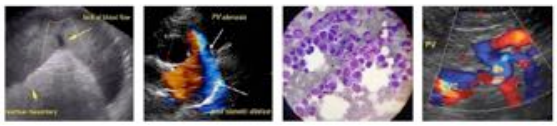

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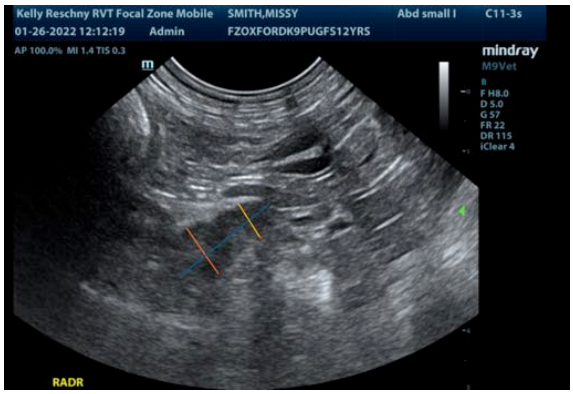
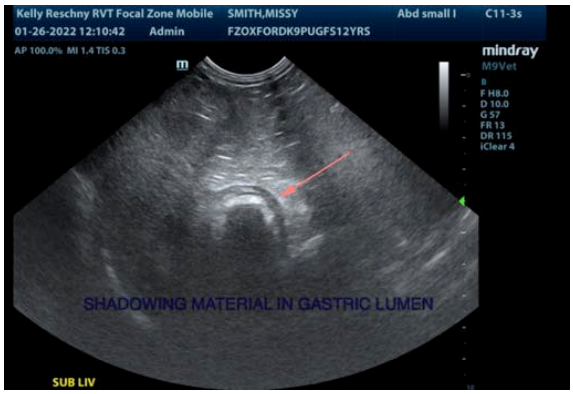
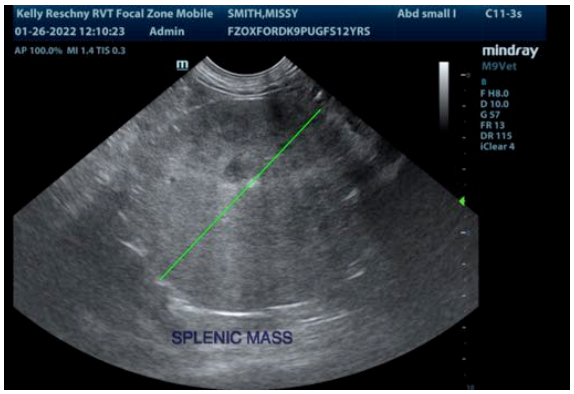
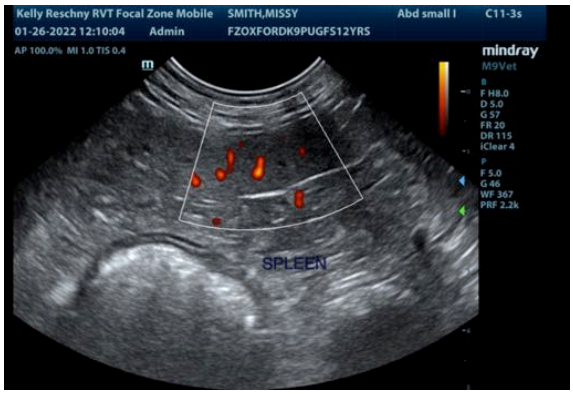
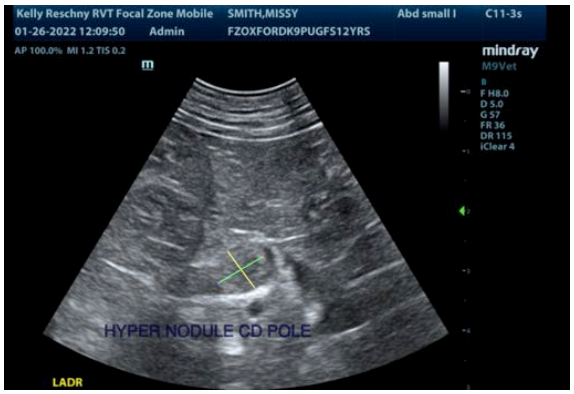
There is some shadowing material in the gastric lumen. This could be an incidental finding due to ingesta, but correlate with feeding history and abdominal radiographs. If foreign material is present this could be removed at the time of the splenectomy.











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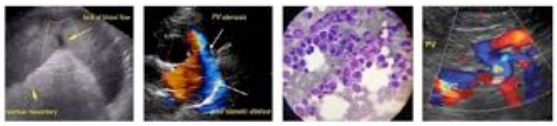

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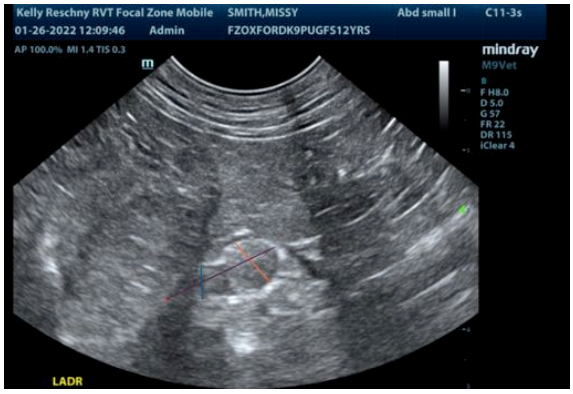

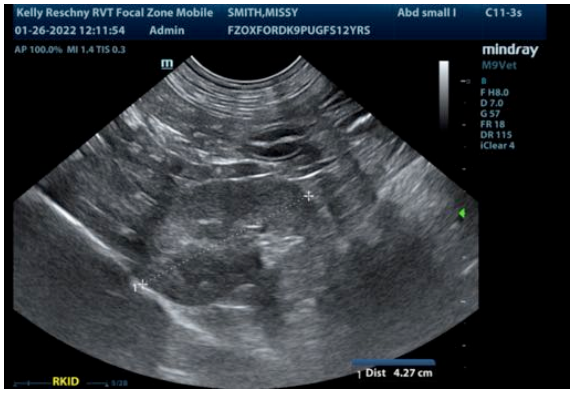

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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