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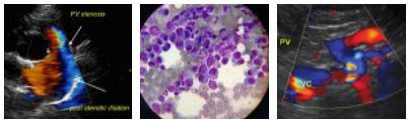

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DATE

5/17/22

PATIENT

Teddy Scheib

SPECIES

Canine

BREED

Pomeranian

SEX

Intact Female

AGE

11/9/08

WEIGHT

19 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Stephanie Pearce RDCS, RVT

HOSPITAL NAME

Fullerton AH

REFERRING VET

Dr. Levine

INVOICE

37679

PRESENTING CLINICAL SIGNS

Presented on 5/10 for lameness and lethargy. O had been giving baby aspirin. Pet now lethargic. On exam grade 4/6 murmur, multiple firm mammary masses, bloody vaginal discharge, tense abdomen, severe dental disease and otitis externa AS. Painful RH leg- no abnormalities palpated. Previously in heat one month ago.

Current Medications: Baytril 68mg SID, Gabapentin 50mg BID, Tramadol 25mg BID.
Lab Results: Mild anemia with HCT at 34% which appears to be non-regenerative, hypochromic, microcytic. Mild increase in Tbili 1.2 and ALT 155.
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 moderately distended with anechoic urine. The Bladder wall is largely normal with no evidence of diffuse thickening or irregularity. There is a focal lesion visualized in the dorsal aspect of the urinary bladder wall near the caudal third of the urinary bladder, which is a small, raised mass/polypoid lesion measuring 0.42 cm x 0.54 cm. The trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, or cystic calculi. These findings are most consistent with a bladder polyp or early bladder mass effect.

The left kidney has a normal shape and size (4.41 cm) with occasional pinpoint 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 (4.28 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 normal in size measuring 0.69 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 large in size measuring 1.13 cm at the cranial pole, 0.97 cm at the caudal pole, and 2.36 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 in that there is a hypoechoic mass effect in the mid/caudal body of the adrenal gland, measuring 1.2 cm x 1.4 cm. These findings are most consistent with a nodule in the caudal pole of the adrenal gland.

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 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 gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

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. There is a small, 1.61 cm shadowing object within the gastric lumen, which could be consistent with foreign material, medications, etc.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Jejunum wall measured 0.39 cm. Duodenum wall measured 0.51 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

Both ovaries are visualized. The left ovary measures 2.05 cm and is somewhat cystic. The right ovary is of mixed echogenicity and measures 1.7 cm. The uterus is visualized dorsal to the urinary bladder and appears relatively normal with a very small amount of intraluminal fluid.

PRIMARY FINDINGS

- Small, focal mass effect in the dorsal aspect of the urinary bladder wall – This could represent a benign polyp or an early mass lesion.

- 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.

- Hypoechoic nodule in the caudal pole of the right adrenal gland – Right adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.

- Mildly thickened small intestine – The mild small intestinal wall changes may be a normal variant in this patient or could be consistent with an inflammatory process (e.g., inflammatory bowel disease).

- Intact, somewhat cystic ovaries with a visible uterine body – These findings could be normal for this individual or could be consistent with mild metritis, etc.

SECONDARY FINDINGS

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.

- Moderate gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a small focal mass effect in the bladder wall. This could be consistent with a polyp/inflammatory lesion or an early neoplastic lesion. Unfortunately, a definitive diagnosis cannot be determined by ultrasound alone.

The focal irregularity in the bladder wall has the characteristics most consistent with a benign/inflammatory lesion, but neoplastic lesions can sometimes have a similar appearance. A definitive diagnosis cannot be determined by ultrasound alone.

-Consider culture and sensitivity- if infection present the lesion can be re-evaluated with ultrasound approximately 2 weeks into the antibiotic course.

-Urine evaluation for the BRAF mutation seen in patients with transitional cell carcinomas could be considered. IF the lesion is persistent and BRAF testing is negative (ie non diagnostic) you could consider Traumatic catheterization to obtain representative cells for cytology, or biopsy sampling via either cystoscopy (if a female) or surgery.

There is a hypoechoic nodule visualized in the right adrenal gland. This lesion is somewhat subtle, but does mildly deform the shape of the adrenal gland. These nodules could be benign or malignant and can secrete hormones or be non-active. Options moving forward include:

- If signs of cushings 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 cushings 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 cushings are present, consider either referral for surgery or continued monitoring with ultrasound (in 3-4 months).

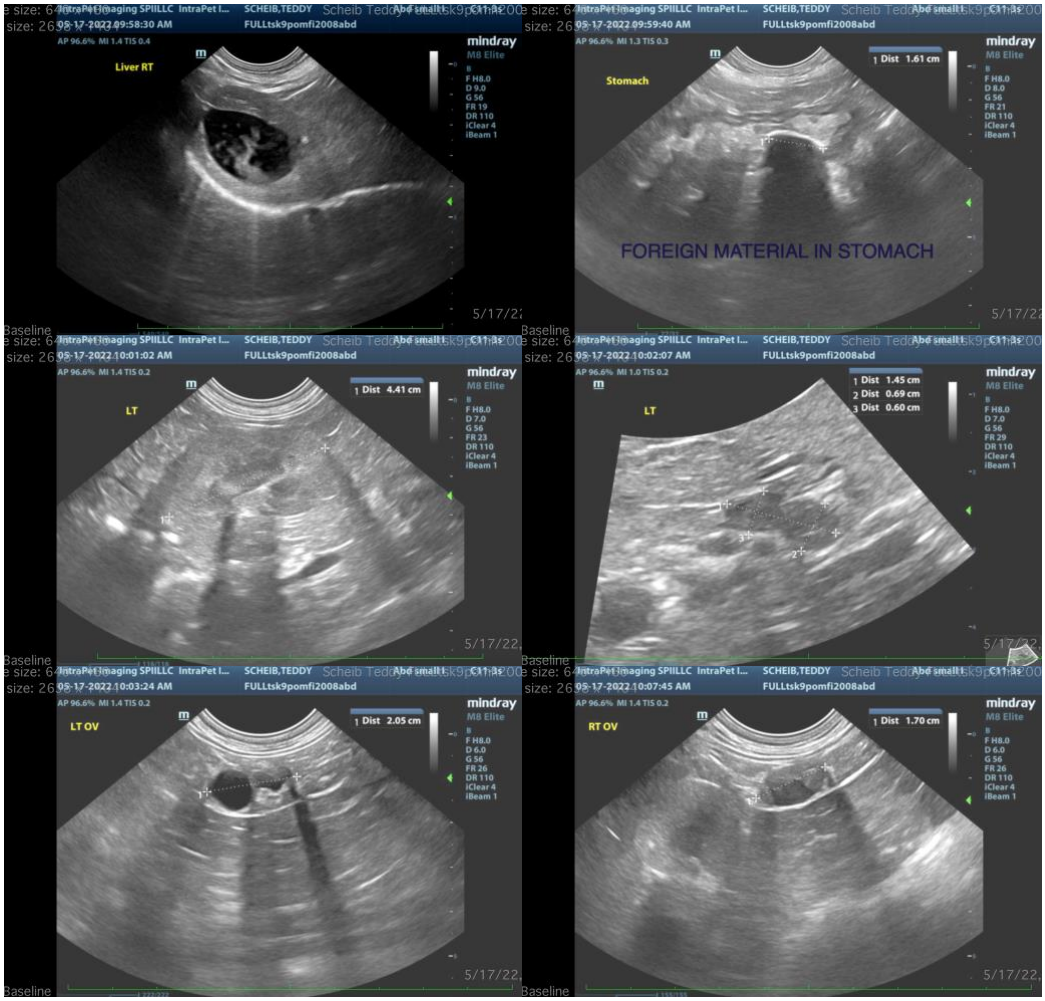
- Many of these nodules can be benign and incidental in nature, unfortunately that is difficult to determine with a single ultrasound.

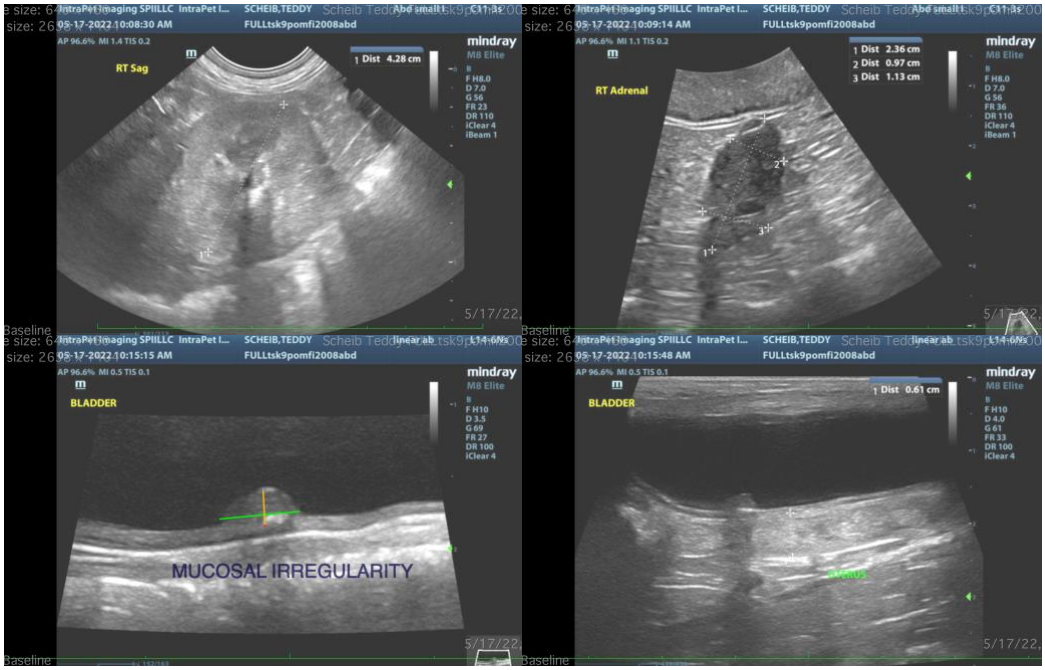
The uterus and ovaries are visualized on today's exam. The ovaries are somewhat cystic, but no large focal mass lesions are observed. Additionally, the uterus is somewhat prominent and may have a small amount of intraluminal fluid, but there is no significant distention or inflammation noted. The cause of the bloody

vaginal discharge is not 100% clear. This could be consistent with mild metritis/pyometritis, vaginitis, or even an atypical heat cycle. Given the mammary tumors, the prolonged bleeding, and the anemia reported, I would consider an ovariohysterectomy with histopathology and cultures to obtain more information and have some therapeutic value. Additionally, the mammary masses should ideally be biopsied or removed (excisional biopsies). 3-view thoracic radiographs should be performed prior to considering surgery.

The cause for the elevation in bilirubin and anemia is not readily apparent. The anemia could be due to chronic bleeding (you could consider measuring blood iron levels), or it could be a concurrent factor. Confirm the sample is not hemolyzed. If the elevation in bilirubin is persistent and real, then you could consider a biopsy of the liver at the time of spay.

There are a lot of different issues going on with this pet at this time. I might consider starting with the mammary/bloody vaginal discharge/anemia issues, and then decide on the bladder lesion and the adrenal, but a careful discussion with the owner will be necessary to prioritize issues.





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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