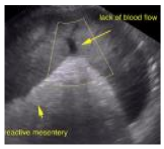
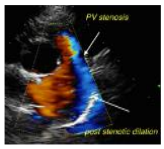
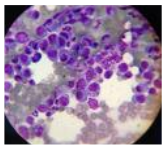
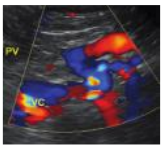
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT
Pixie Turgeon

SPECIES
Canine

BREED
Toy Poodle

SEX
Spayed Female

AGE
13 Years

WEIGHT
15.8 Pounds

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

IMAGING PERFORMED BY
Chaley Hunt, LVT

HOSPITAL NAME
Columbia AC

REFERRING VET
Dr. Michelle Engel

INVOICE
37382

DATE
5/4/22

PRESENTING CLINICAL SIGNS

Increased values at senior labwork appt on 4/6/22.
Abnormal PE/Chem/CBC/UA Results: Results: CBC-platelets 536(143-448) Chem-chloride-106(108-119) TP-7.6(5.5-7.5) ALP-742(5-160), was 473 GGT-20(0-13), was 16 Lipase-372(0-250), was 261

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 (3.69 cm). Overall echogenicity is slightly hyperechoic with mildly decreased corticomedullary distinction and a typical 1:3 cortex:medulla ratio. Occasional small cortical cysts noted. 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 (4.08 cm) with occasional small cortical cysts. 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 0.88 cm at the caudal pole, 0.57 cm at the cranial pole and 2.1 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 cranial pole is larger than the caudal pole and is slightly more hyperechoic. There is no evidence of localized vascular invasion visualized. Findings could be consistent with an asymmetrical large adrenal or a nodule on the cranial pole.

The right adrenal gland appears large. The cranial pole measures at 0.56 cm. The caudal pole measures at 1.3 cm. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is somewhat abnormal in appearance in that it is difficult to visualize and appears to be large at the caudal pole with a small, hyperechoic, ill-defined region. Findings are suspicious for a right adrenal mass/nodule.

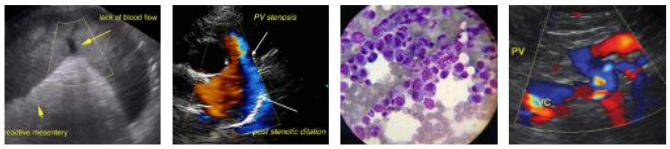
Spleen

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 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. There are numerous ill-defined, small hypoechoic nodules visualized. One on the right side of the caudate lobe measures 0.59 cm.

The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. Gallbladder wall with adhered sludge measures at 0.42 cm. There is a large amount of primarily non-organized echogenic debris. There is no evidence of bile duct dilation. These changes can be consistent with an early gall bladder mucocele.



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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. 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. 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 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.

PRIMARY FINDINGS

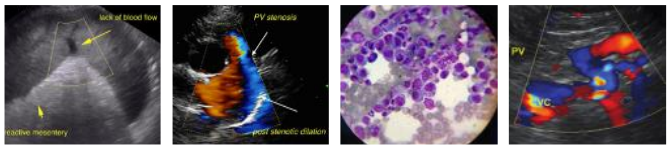
- Enlarged, hyperechoic cranial pole of the left adrenal gland – findings could be consistent with asymmetrical adrenomegaly or an early nodule on the cranial pole.
- Prominent caudal pole of the right adrenal gland – It is difficult to clearly see, but I suspect an adrenal mass/nodule on the right adrenal gland.
- Large, heterogeneous liver with ill-defined hypoechoic nodules – 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.
- Large amount of gallbladder sludge – There is a large amount of debris in the gallbladder, which appears adherent to the gallbladder wall. Findings could be consistent with early cholecystitis. Recommend Ursodiol +/- antibiotics and close monitoring.

SECONDARY FINDINGS

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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Both adrenal glands appear somewhat abnormal. The cranial pole of the left adrenal gland is prominent and slightly enlarged, and the right adrenal gland (difficult to fully evaluate) appears large, rounded,



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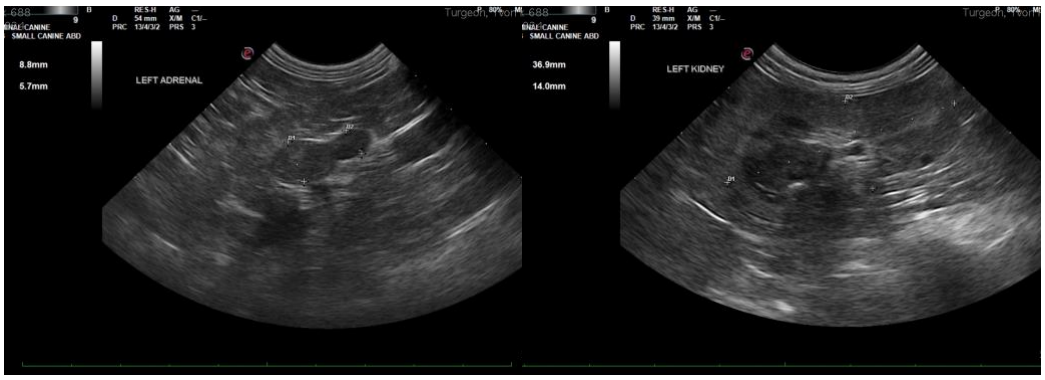
and has a small hyperechoic focus. This is more consistent with a true nodule/mass lesion. These findings could be consistent with hyperplasia, adenomas (one or both), or cancerous change. These areas could be secreting hormones or be non-active. This is a somewhat challenging situation, as adrenal function testing can be helpful in determining if there is a cortisol excess, but will not define the nature of the adrenal changes. Options moving forward would include:

- Consider adrenal function testing. If signs of Cushing's are present, 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).
- Recommend blood pressure to evaluate for a pheochromocytoma. If hypertension is present, consider testing catecholamine levels.
- Consider advanced imaging (contrast CT scan) to further evaluate the adrenal glands for vascular invasion and to confirm location and nature of the right adrenal).

Based on these results, you can try and decide if surgical intervention is desired, and if so, unilateral versus bilateral adrenalectomy, or if medical therapy is desired/warranted. Additionally, you could consider continued monitoring with ultrasound combined with medical therapy or no therapy. Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

The gallbladder has a large amount of intraluminal debris, and this debris is adhering to the gallbladder wall. This is concerning for early cholecystitis. Recommend starting Ursodiol +/- a course of antibiotics and continued monitoring of the gallbladder with ultrasound to monitor for possible progression of the lesion.

The liver is heterogeneous and has occasional hypoechoic, ill-defined nodules, which trend towards a more benign appearance. This could be consistent with a vacuolar hepatopathy secondary to a cortisol excess, or could be due to a different hepatopathy. Options include liver function testing +/- fine needle aspirate.



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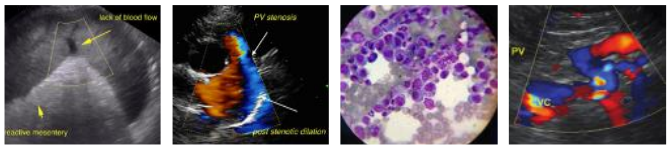

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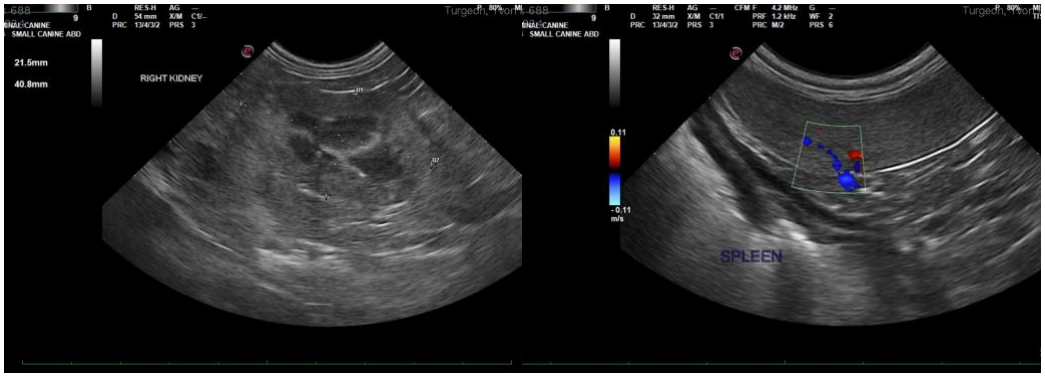

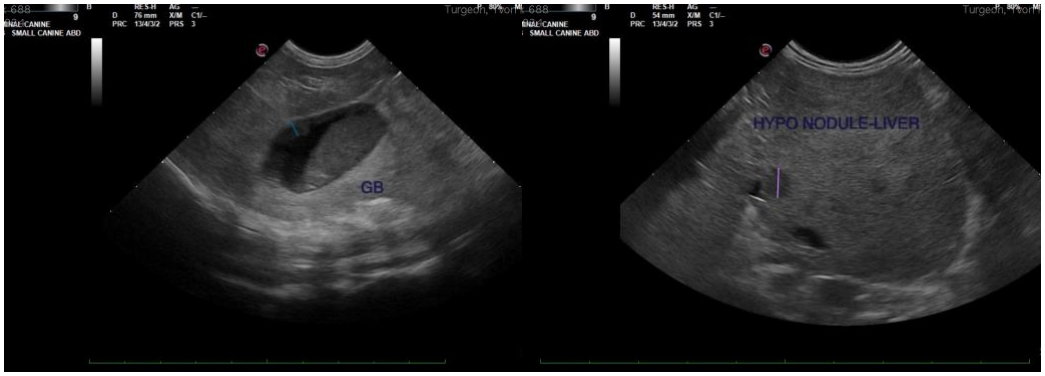

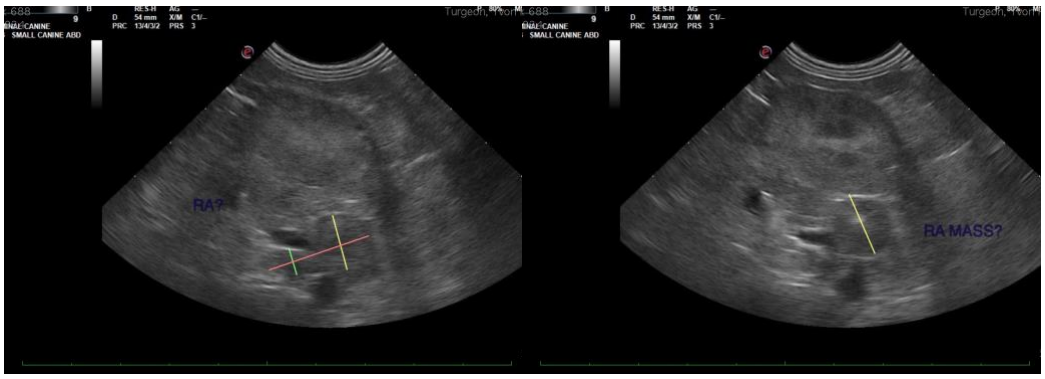

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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