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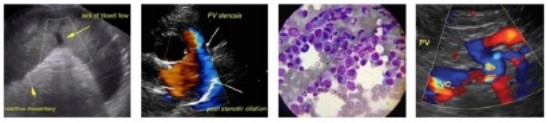

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Muttley Schy

SPECIES

Canine

BREED

Lab Ret

SEX

Neutered Male

AGE

11 years

WEIGHT

68 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

South Reno Veterinary Hospital

REFERRING VET

Dr. Schmitt

INVOICE

10417

DATE

8/15/2023

PRESENTING CLINICAL SIGNS

Sedated 0.1ml IV of dexdormitor and butorphanol- hematuria- UB mass seen on inhouse fast scan- Hx: Owner reports no vomiting coughing sneezing. Eating and drinking normal. Mobility and activity normal. Since beginning of last week owner has noticed intermittent bloody urine. Happens every day. Owner stopped medications at that point. Patient also began diarrhea about the same time.

Abnormal PE/Chem/CBC/UA Results: Chemistry screen: Mildly increased total protein 7.9, globulin 3.9, alk phos 313, cholesterol 775 CBC: No significant finding

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. There is a large irregular mixed echogenicity with some mineralizations mass effect visualized in the ventral apical region of the urinary bladder measuring 3.59 cm x 3.77 cm. The remainder of the urinary bladder appears relatively normal. The trigone region is free of any mass, lesions, calculi, or mucosal irregularity.

The prostate is normal in size (0.95 cm) and shape for this neutered male dog. The parenchyma is homogenous, and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (7.01 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.

The right kidney has a normal shape and size (6.74 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 large and irregular in appearance measuring 2.91 cm at the cranial pole, 1.75 cm at the caudal pole, and 4.92 cm in length. It is visualized in its normal position cranial to the left renal artery. It is atypical in appearance in that it is large and rounded creating a mass effect. No definitive vascular invasion is visualized.

The right adrenal gland is normal in size measuring 0.77 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

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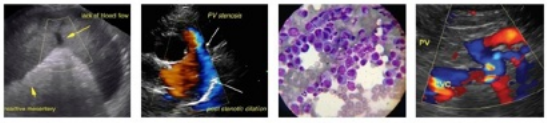

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The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is hyperechoic and heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There are numerous diffuse ill-defined hypoechoic nodules throughout the parenchyma. Some larger hypoechoic nodules measure 2 cm x 1.24 cm and 2.35 cm x 3.6 cm.

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. 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 (0.53 cm), and the jejunum measured as normal (0.47 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

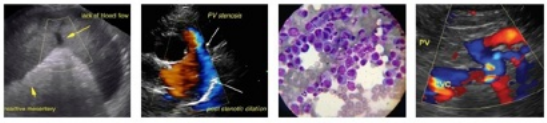
The pancreas is prominent and mildly mottled in the right limb compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. No significant lymphadenopathy and the omentum is of normal echogenicity.

PRIMARY FINDINGS

- Large irregular mixed echogenicity mildly mineralized mass effect visualized in the apical ventral portion of the urinary bladder. Findings are most consistent with a transitional cell carcinoma or other neoplastic lesion although benign differentials are possible.
- Large irregular left adrenal. Findings are most consistent with a left adrenal mass lesion. Adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Hyperechoic heterogenous liver with diffuse 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. The nodules observed trend toward a more benign process, but underlying neoplasia cannot be



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ruled out.

SECONDARY FINDINGS

- Mildly mottled right limb of the pancreas. The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis, or chronic pancreatitis.
- Moderate gallbladder debris. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a large irregular mixed echogenicity, mineralized mass effect at ventral apical portion of the urinary bladder. This location is somewhat atypical for transitional cell carcinoma, but the appearance is typical. Consider a traumatic catheterization to obtain a cytologic sample for a definitive diagnosis. Additionally, recommend a urine analysis and culture (if not already done). If a cytologic diagnosis can be obtained recommend a consultation if a veterinary oncologist regarding treatment options and prognosis particularly combine with the adrenal mass lesion present. If a cytologic diagnosis cannot be obtained, consider a urine BRAF test. If positive this would increase the likelihood that this is a transitional cell carcinoma. If it is negative this is a non-diagnostic test and additional evaluation would be warranted.

Additionally, there is a left sided adrenal mass this could be a benign or neoplastic lesion and could be actively secreting hormone or be non active. The size of this lesion increases concern for possible neoplastic lesion. Recommend a blood pressure evaluation if hypertensive recommend measuring catecholamines looking for a pheochromocytoma. Otherwise, if surgical removal would be considered you could consider a contrast CT scan for surgical planning. Additionally, you could consider adrenal function testing if signs of Cushing's are present. This may be somewhat difficult to interpret due to the concurrent illness present.

The liver is hyperechoic and heterogenous with ill-define hypoechoic nodules. The appearance of these lesions' trends toward a more benign process but given the two abdominal mass lesion metastatic disease would need to be considered. A fine needle aspirate of the liver could be an option to obtain more information.

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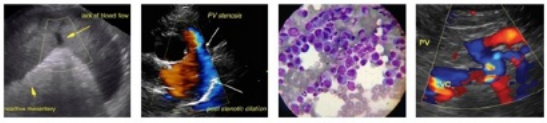

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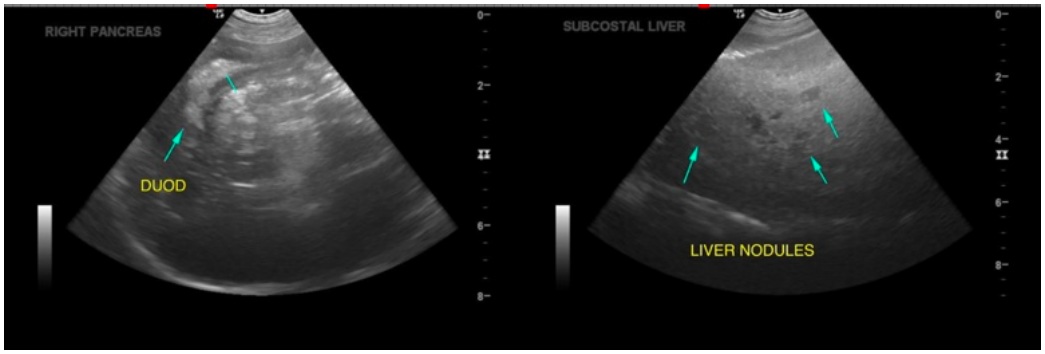

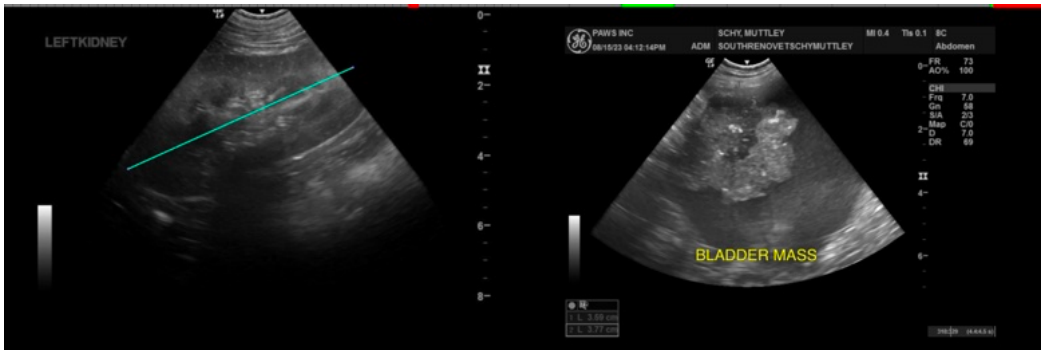

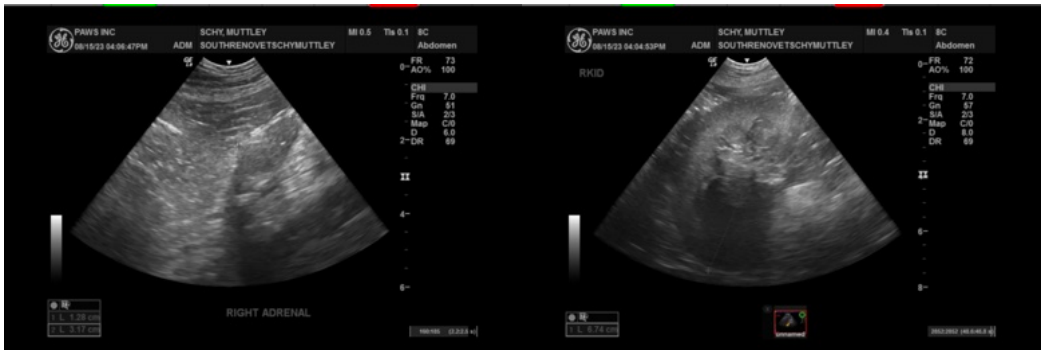

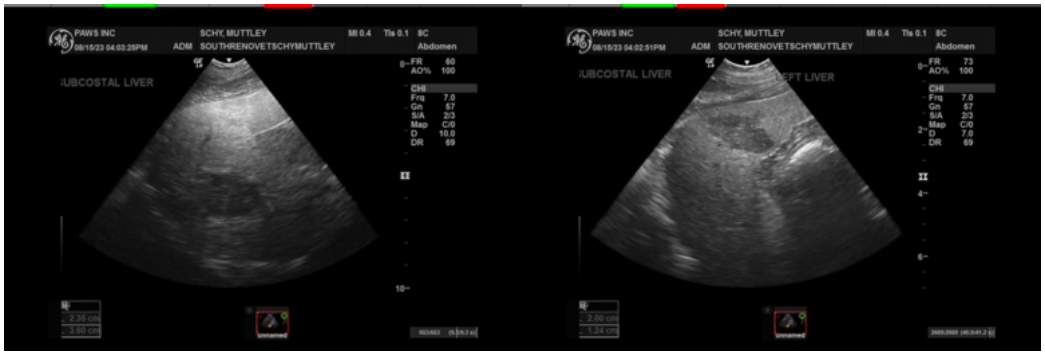

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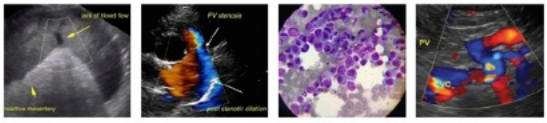

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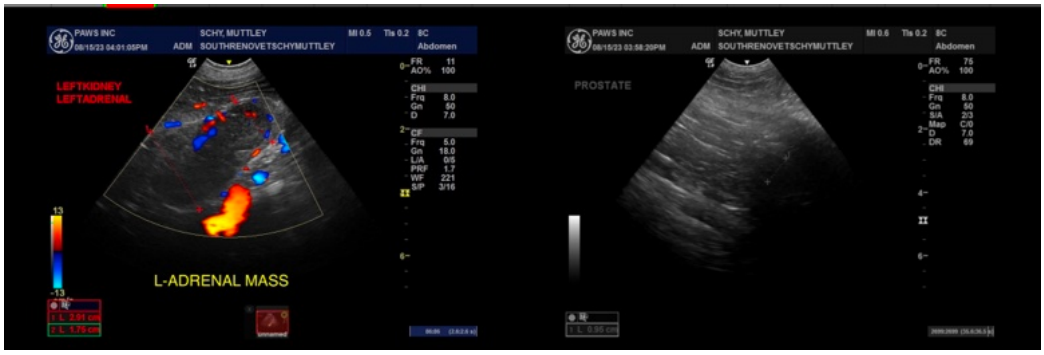

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

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