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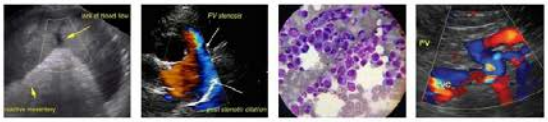

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Bear Caywood

SPECIES

Canine

BREED

Mixed

SEX

Neutered Male

AGE

12 Years

WEIGHT

11 Pounds

INTERPRETED BY

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

IMAGING BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Desert Hills AH

REFERRING VET

Dr. Michelle Caldwell

INVOICE

40613

DATE

8/18/22

PRESENTING CLINICAL SIGNS

Chief Concern/Provisional Diagnosis: Leukocytosis, IRIS kidney stage 2, pending final urine culture, however growth is detected at this time, malodorous urine, previous cystotomy, historical intermittent vomiting and diarrhea, weight loss of 1# in the last 2 months, hct 34.18% History / Physical Findings: Grade 1-2/6 murmur, no arrhythmia, tense on cranial abdominal palpation, generalized muscle wasting, pale pink MM

Abnormal PE/Chem/CBC/UA Results: Wbc 22110 (6000-17,000), neut 19620 (3000-12,000), rbc 5.10 (5.5-8.5), hct 34.18, chem - alp 227, bun 21, crea 1.9, usg 1.015

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is minimally distended with anechoic urine. The Bladder wall appears diffusely mildly thickened and irregular at 0.39 cm. In the dependent portion of the urinary bladder, there is a small, hyperechoic shadowing structure, most consistent with a small stone, measuring 0.20 cm. The area of the trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear free of any mass lesions or calculi.

The prostate is normal in size (1.09 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 is borderline enlarged (3.23 cm) and irregular in shape with decreased corticomedullary distinction. Mild pyelectasia noted at 0.16 cm and pinpoint non-obstructive nephroliths. There is an irregularity in the cranial pole of the left kidney measuring 1.85 cm x 1.18 cm, possibly consistent with a hyperechoic mass lesion. Recommend fine needle aspirate.

The right kidney has a normal shape and size (3.5 cm) with mild pyelectasia of 0.19 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 nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring XXcm 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 borderline large in size measuring 0.85 cm at the cranial pole, 0.51 cm at the caudal pole, and 2.26 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. There is a hyperechoic region in the caudal pole measuring 0.37 cm x 0.51 cm, consistent with a nodule in the cranial pole.

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. There is a very small anechoic cystic structure visualized at the periphery of the spleen, measuring 0.25 cm.

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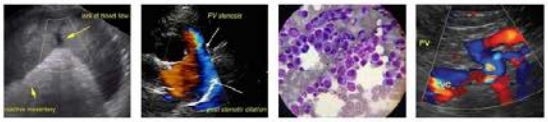

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Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is mildly 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 hyperechoic 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 (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.

Other

A brief view of the heart was submitted. No significant pericardial effusion was seen.

ULTRASONOGRAPHIC FINDINGS

- Thickened, irregular urinary bladder wall with a small shadowing stone – most consistent with cystitis. Urinalysis and culture are pending per history.
- Focal hyperechoic irregularity to the right kidney – This could be consistent with an early mass effect. Recommend fine needle aspirate (25-gauge needle provided coagulation parameters and blood pressure are normal).

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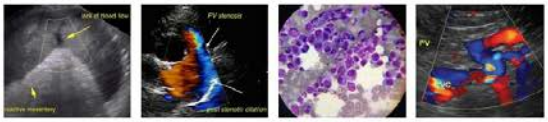

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- Decreased corticomedullary distinction in both kidneys with mild pyelectasia and pinpoint non-obstructive nephroliths – The bilateral renal findings are consistent with age-related change. Pyelectasia of the left/right kidney could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.
- Small cystic structure in the periphery of the spleen – This could represent a benign cystic structure or an early mass lesion. Recommend continued monitoring with ultrasound, and surgical removal if it is enlarging.
- Mildly 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.
- Moderate hyperechoic gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.
- Large, hyperechoic cranial pole of the right adrenal gland – Right adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.

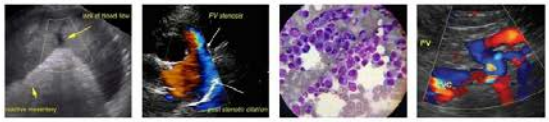
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are numerous lesions visualized on today's exam. Many of these could be age related and not significant. Unfortunately, no obvious explanation for the vomiting and diarrhea is observed. The changes observed in the urinary bladder are most consistent with the suspected cystitis described in the history. Recommend evaluation of the urine culture as well as radiographs to look for evidence of the very small calculus observed. Consider reevaluation of this calculus after treatment of the urinary tract infection in hopes that it may dissolve.

The changes in the kidneys are largely consistent with age related change, possibly PU/PD and infection. Recommend blood pressure (urinalysis and culture are pending). There is a concerning area on the left kidney where there is a hyperechoic bulge. This could be an anatomical variant, irregularity secondary to an infarct, but I am concerned it may be an early mass lesion and recommend a fine needle aspirate with a small gauge needle, provided blood pressure and coagulation parameters are normal.

There is a hyperechoic area visualized on the right adrenal gland. I do not see any evidence of vascular invasion, but this is always still possible. These types of lesions can 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)



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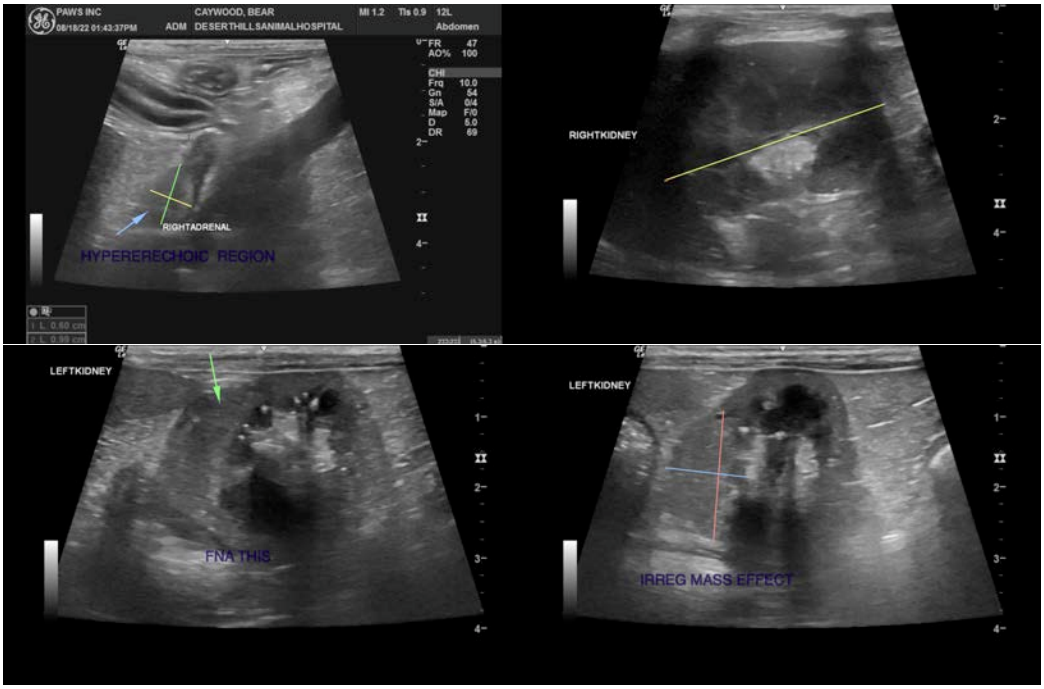
- If adrenal dependent cushings is suspected and supported by adrenal function testing consider medical therapy with lysodren or trilostane and/or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)-This can be a challenging surgery with significant risk for complication
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- Due to the invasive nature of these masses a CT scan is recommended to evaluate for metastasis and vascular invasion.
- If no symptoms of cushings are present, consider either referral for surgery or if surgery is not an option consultation with a veterinary oncologist regarding chemotherapeutic options and continued monitoring with ultrasound (in 4-6 weeks) can be considered.
- Some aggressive adrenal tumors can grow quickly and there is risk for acute hemorrhage from vascular invasion.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.



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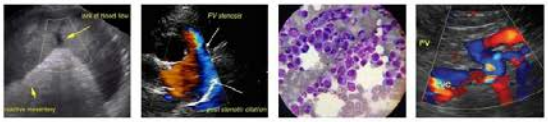

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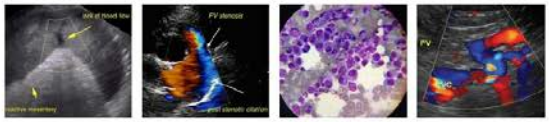

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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