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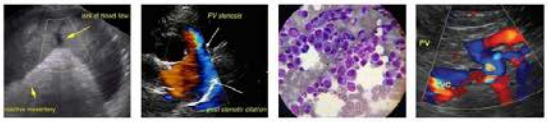

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

**PATIENT**

Jewels Stracher

**SPECIES**

Canine

**BREED**

Cattle Dog X

**SEX**

Spayed Female

**AGE**

11 Years

**WEIGHT**

58.4 Pounds

**INTERPRETED BY**

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

**IMAGING BY**

Loetitia Saint-Jacques, LVT

**HOSPITAL NAME**

LuxPetVet

**REFERRING VET**

Dr. Kristin Kee

**INVOICE**

41701

**DATE**

9/27/22

## PRESENTING CLINICAL SIGNS

Chief Concern/Provisional Diagnosis: - Foster pet - Previously significantly overweight (84.2# upon intake to shelter) - Foster has achieved weight loss with diet changes and exercise - History of elevated ALT & ALP (5/17/22) that returned to normal limits - History of resistant bacterial cystitis - Resolved 6/2022 - History of elevated SDMA - 7/13/22 - History of PU/PD that has decreased - History of urinary incontinence - Managed with low-dose Proin - Stranguria and pollakiuria History/Physical Findings: Patient presents for second opinion prior to adopting foster pet with new stranguria, pollakiuria, and decreased PU/PD. Patient has a history of resistant bacterial cystitis, SDMA, elevated ALT, elevated ALP, PU/PD, urinary incontinence, and obesity. No urinary incontinence noted in the foster home with Proin. Upon physical exam, multiple SQ and dermal masses, moderate periodontal disease, significantly recessed vulva with viscous mucoid vaginal discharge. BCS 5.5/9. Summary of Laboratory Abnormalities: - 5/17/22 Elevated ALT 321 (10-125) & ALP 353 (23-212), however, these values returned to normal limits on recheck blood work on 7/13/22. - 7/14/22 TT4 & TSH WNL - 7/13/22 - Elevated SDMA 18 (0-14) - 9/16/22 Systolic BP: 132mmHg - 9/16/22 Isosthenuria (1.010), remainder of UA WNL and urine culture negative Radiographic Abnormalities: - 5/10/22: Single lateral performed by shelter. Exam notes indicate the following findings - Discospondylosis from L3- L5, soft tissue mass visible on ventral abdomen, large urinary bladder, no evidence of stones, small amount of apparently firm feces within colon. Current Therapy and Medications: - Proin 37.5mg BID

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder is moderately distended with mild primarily suspended echogenic debris and some dependent shadowing/sandy debris present. 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 calculi. Echogenic debris of this type can be associated with small crystals, sandy debris or small calculi. Correlate findings with abdominal radiographs, urinalysis and culture.

The left kidney has a normal shape and size (6.26 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 (6.39 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 measuring 2.33 cm at the cranial pole, 0.95 cm at the caudal pole, and 4.51 cm in length. It is observed in its normal position cranial to the left renal artery. It is atypical in appearance in that the cranial pole is hyperechoic and enlarged with a mass effect measuring 2.9 cm x 2.23 cm. There is no obvious evidence of vascular invasion.

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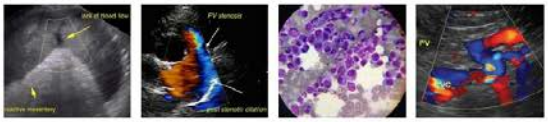

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The right adrenal gland is large measuring 1.18 cm at the caudal pole and 3.12 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) 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*

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. No focal nodules or cystic lesions are observed.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. 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.

## ULTRASONOGRAPHIC FINDINGS

- Dependent sandy debris in the urinary bladder – The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus.

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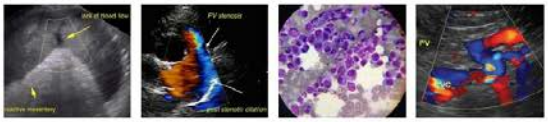

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- Hyperechoic mass effect on the cranial pole of the left adrenal gland – Left/right adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Prominent/enlarged right adrenal gland – No mass effect is visualized. This could represent concurrent PDH or be an anatomic variant.
- Large, 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.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is some sandy debris visualized in the urinary bladder. Correlate these findings with a current urinalysis and culture. Based on the history of a recessed vulva, recommend vaginoplasty to help reduce any anatomic abnormalities increasing the chances for infection.

Both adrenal glands are enlarged. The left adrenal gland has a mass effect on the cranial pole, and the right adrenal gland is large with no mass lesion. This could represent PDH with a mass lesion on the left adrenal, or just a left-sided mass lesion with a prominent/big (but normal) right adrenal gland. Typically if the left adrenal mass is secreting hormone, the right adrenal should atrophy, but this may not happen if the mass lesion is not actively secreting hormone or if there is concurrent PDH.

The left adrenal mass lesion could be benign or neoplastic and could be actively secreting hormone 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 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.

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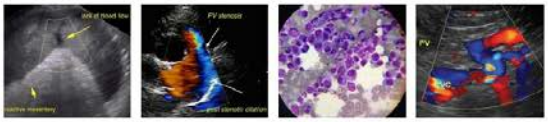

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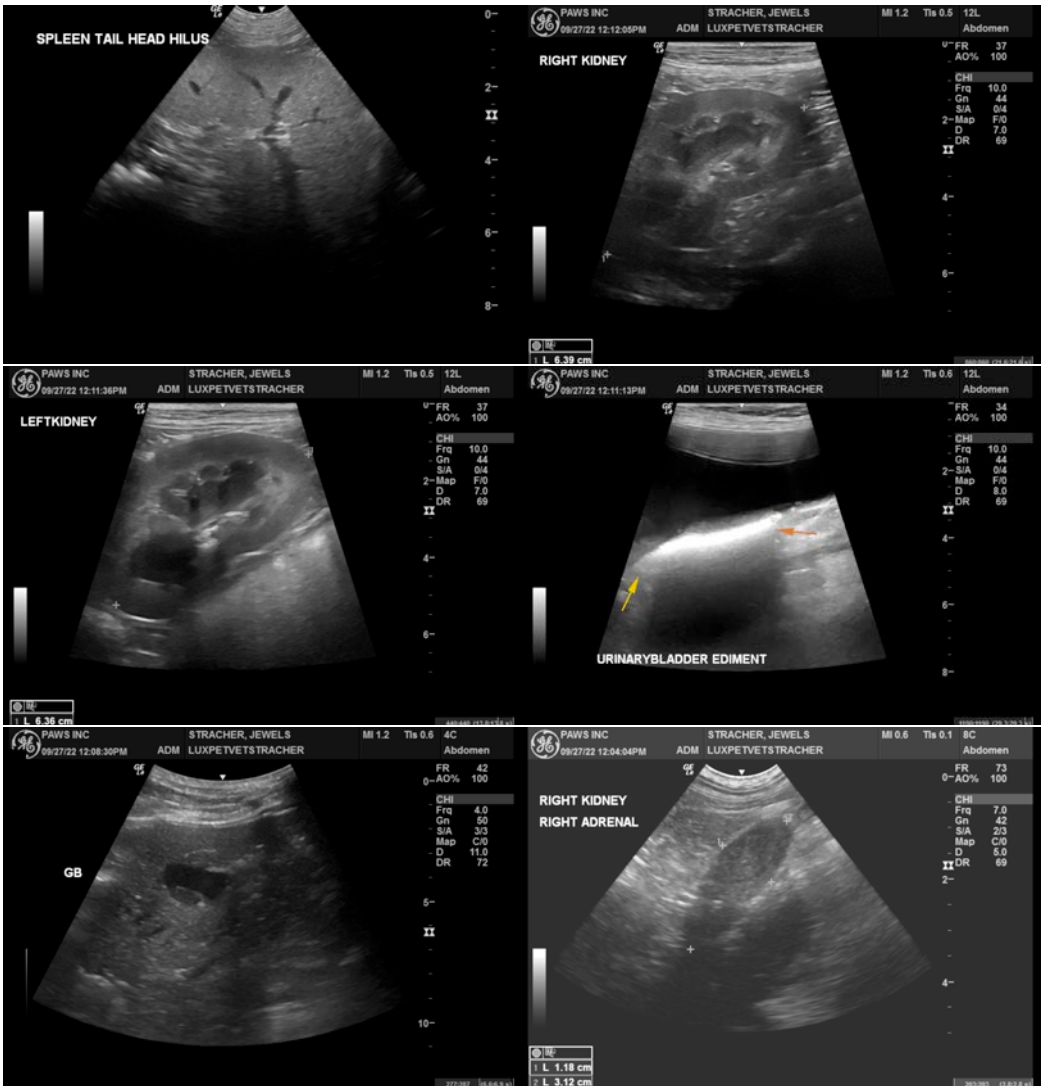
This issue is somewhat confused by the enlarged right adrenal. If surgery would be considered, I would follow these recommendations and pursue advanced imaging and surgical removal of the left adrenal mass. If surgical intervention will not be considered, then I would recommend adrenal function testing, possible medical treatment if indicated based on test results, and continued monitoring of the left adrenal with ultrasound.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

The liver is large and heterogeneous. This could be consistent with a vacuolar hepatopathy secondary to Cushing's disease. Cushing's disease could also increase the likelihood for recurrent cystitis.



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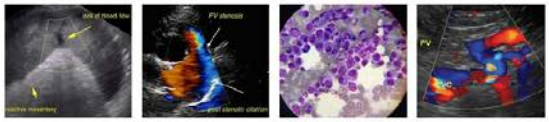

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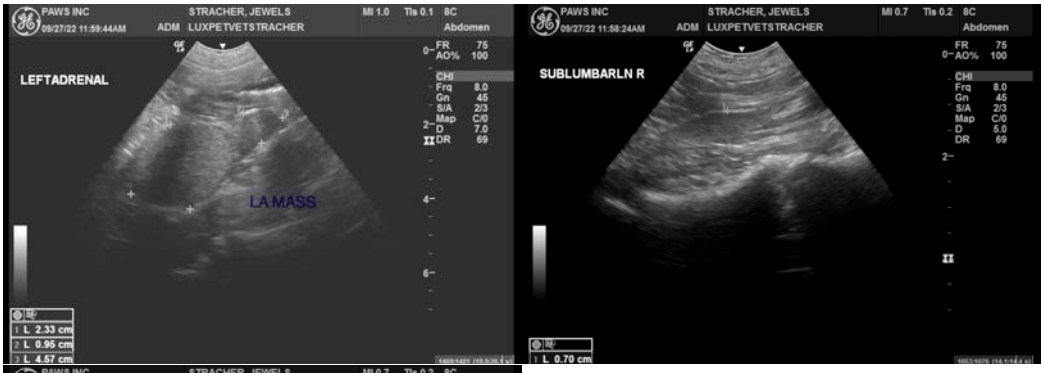


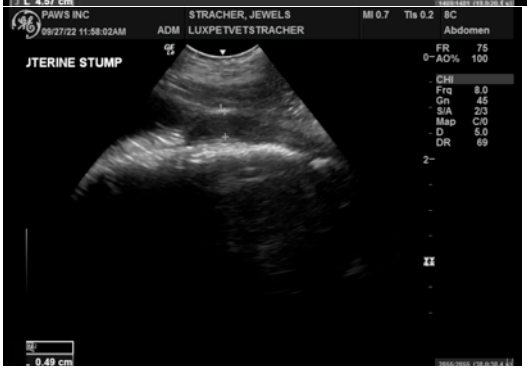


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

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