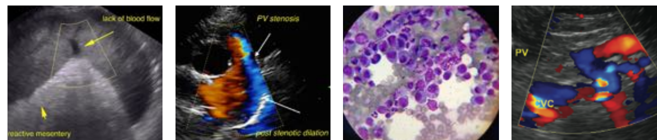

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1-800-838-4268 info@sonopath.com

PATIENT

Izzy Bryan

SPECIES

Mustelid

BREED

Ferret

SEX

Spayed female

AGE

5 years

WEIGHT

2 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Krogman

HOSPITAL NAME

RB Northside AH

REFERRING VET

Dr. Agulnick

INVOICE

45042

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PRESENTING CLINICAL SIGNS

History: Adrenal disease with deslorelin implant in 2022 and repeated April 2023. Mammary gland development with FNA at VCA = milk and no abnormal cells detected in 4/2023. Glands have further developed. Ferret has lost 0.25 lb (2.25 lb down to 2 lb) in 3 months. Still active but a little more quiet, normal appetite.
Abnormal PE/Chem/CBC/UA Results: PE: generalized developed mammary glands, firm but no heat, erythema, nor pain on palpation. Large spleen. Dental level 1 with previously extracted upper left canine tooth. NSOU with mature cataract OS. 0.25 lb weight loss. Blood work- neutrophilia-9373(per Dr. Lane, generally neoplastic, less commonly immune mediated, rarely infectious) lymph low=618 hyperglobulinemia=5.4 with TP=8.1 (alb=2.7 WNL), - uncommon and usually see decreased alb which not seen in this case. Combination suspicious of granulomatous ds such as FIB (systemic coronavirus) or neoplasia. Hct=64% r/o dehydration vs. polycythemia. RBC=12.7 r/o above BUN=42 r/o high protein meal, renal creat=0.2 low normal Xrays- retroperitoneal mass overlapping and caudal to left kidney with decreased detail central abdomen. Large spleen. No metastasis detected. Heart high end normal. Mild interstitial pulmonary pattern consistent with age changes. Trial of clavamox for neutrophilia in case rare infectious component- 20 mg/kg PO BID dosing started 5/26/23. WORKING DIAGNOSIS: Adrenal adenocarcinoma. Unknown cause of mammary gland development r/o sex hormone secretion from adrenals vs. other.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

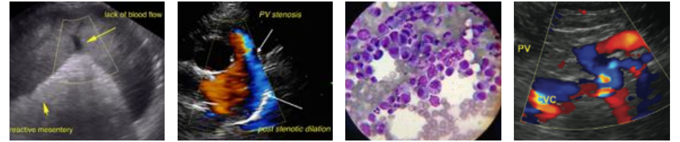
The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex. The right kidney revealed mild pyelectasia. The left kidney measured 3.61 with a cortical cyst.

Adrenal Glands

An undifferentiated hypoechoic, slightly mineralizing 4.0 x 2.3 cm mass was noted in the region of the left adrenal gland. The mass impinged upon the left kidney which presented pyelectasia and regional inflammation as well as a cortical nodule measuring 1.0 cm. Regional inflammation was noted around the left kidney and left adrenal pathology. The vena cava was unremarkable, yet I cannot rule out early invasion from the left adrenal gland.

The right adrenal gland was uniform and measured 0.5 cm.



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Spleen

The **spleen** was uniformly enlarged with relatively uniform parenchyma without evidence of masses. The capsule was mildly swollen. This is most consistent with hypersplenism and reactive hyperplasia deriving from splenic white or red pulp. However, early infiltrative disease, such as lymphoma or mast cell neoplasia can, at times, present in this manner. True hypersplenism from an internal medicine standpoint causes sequestering of thrombocytes resulting in thrombocytopenia and anemia. Clinical manifestation of this phenomenon should be considered. US-guided FNA would be best in order to ensure only reactive hyperplasia is present. If clinical signs fit with potential neoplasia or mast cell disease, then Benadryl injection (1 mg/pound IM) 15 minutes prior to FNA would be recommended.

Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

Free Abdomen

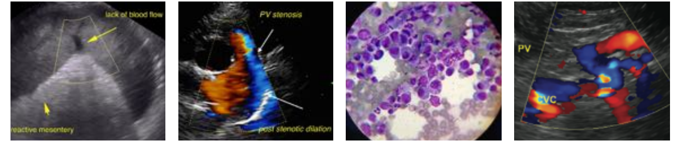
Slight free fluid was noted.

ULTRASONOGRAPHIC FINDINGS

Left adrenal mass with impingement upon the left kidney and left renal cortical nodule. Significant inflammation was noted in the region.

Slight free fluid was noted.

Hypersplenism.



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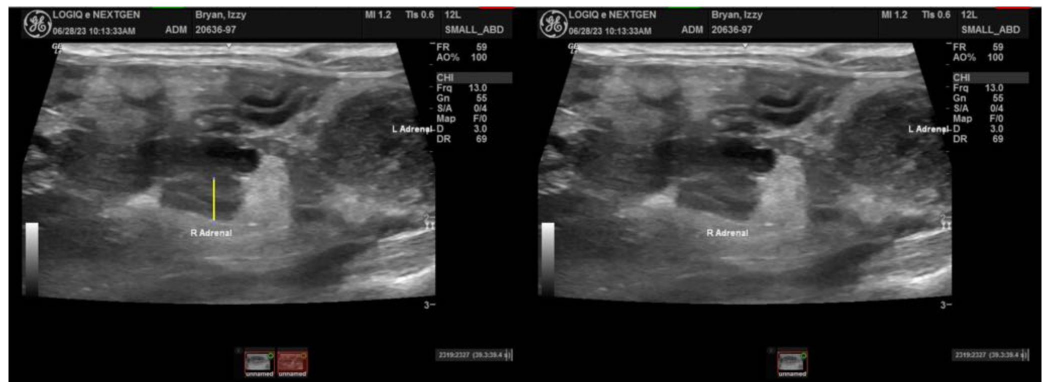
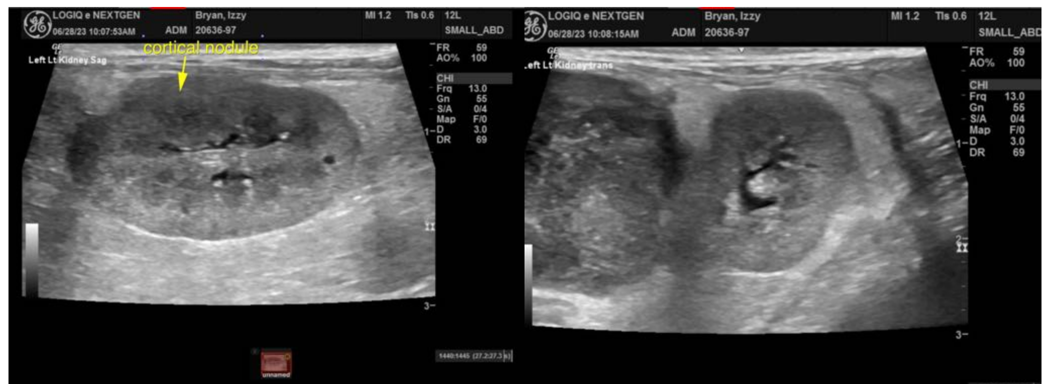
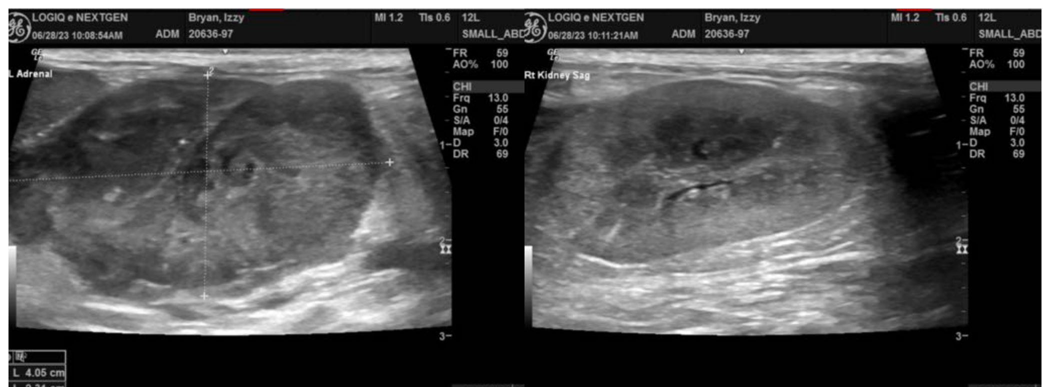
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Surgical intervention with left adrenalectomy +/- left nephrectomy is indicated. FNA of the left adrenal gland and left renal cortex can be considered. Guarded prognosis.







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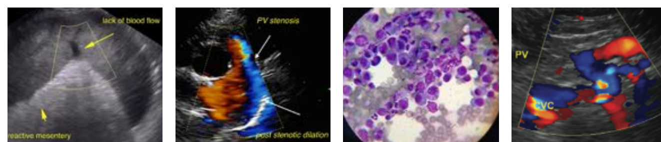

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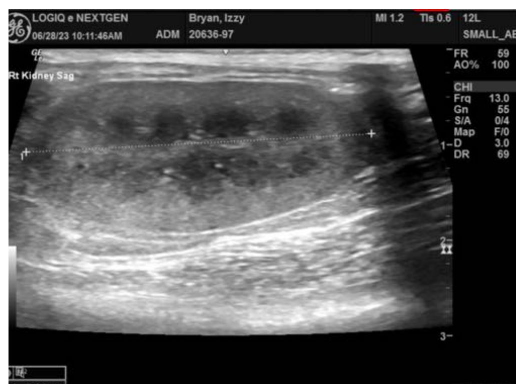

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com